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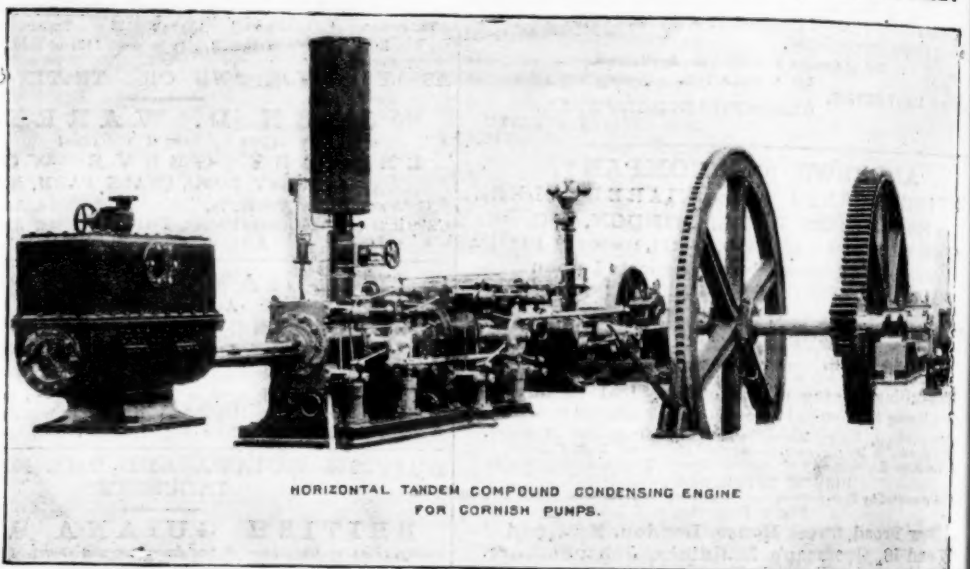
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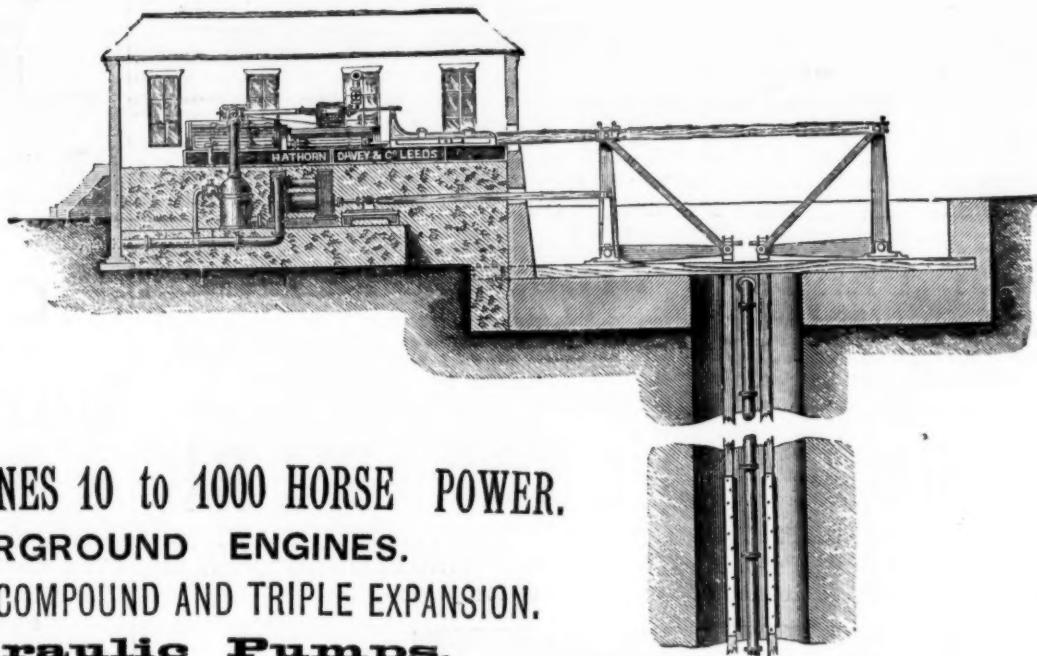
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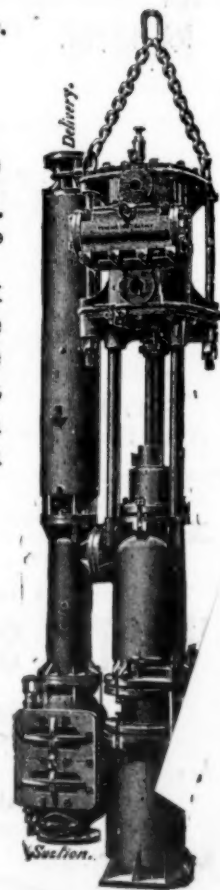
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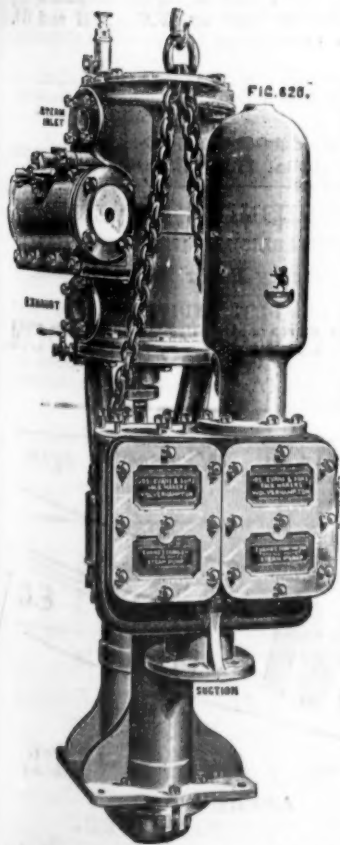


FIG. 875, "FLUOMETER"
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King, Frederick J.	...	Magnetic Ore Separators	1497	Humboldt Engineering Works Co.	...	Mining Machinery	1499				
Larmuth, Thomas, and Co.	...	Mining Machinery	1497	Huntington, Professor	...	Instruction in Assaying	1485				
Lubric Coal and Ore Dressing Appliances (Ltd.)	...		1497	Ingersoll-Sergeant Drill Co. of America	...	Rock Drills and Compressors	1486				
Mason, J. H.	...	Assayer, &c.	1497	Jones, J. A.	...	Mining Engineer	1485				
Nobel's Explosives Co. (Ltd.)	...	Water Cartridges, &c.	1497	Kitto, B.	...	Assay Office	1485				
Pool, J. and F.	...	Metal Perforators	1497	Krupp Grusonwerk	...	Ore Extraction Machinery	1488				
Robey and Co. (Ltd.)	...	Engines and Ore Crushers	1497	Lambert's Wharfage Company	...	Mining Machinery	1482				
Schram and Co.	...	Rock Drills	1497	Larmuth, T., and Co.	...	Iron Merchants, &c.	1482				
United Asbestos Co. (Ltd.)	...	Asbestos	1497	L. LeFoussne	...	Share and Iron Broker	1485				
Unity Fuse	...		1497	Maclean, J. Grant	...	Consulting Mining Engineers	1485				
Van Wagenen	...	Mining Engineer	1497	Marsden, H. T.	...	Stone Breakers and Ore Crushers	1485				
				Martin and Pethybridge	...	Assay Laboratory	1485				
Cannock Chase Colliery Company	...	Coal Exporters	1485	McNeill's Code	...	Aluminium	1488				
Cassell Gold Extracting Co. (Ltd.)	...	MacArthur-Forrest Process	1486	Merton and Co.	...		1485				
Champion Rock Borer Co.	...	Rock Borers	1486	Mining and Industrial Exchange of New York	...	Merchants and Forwarding Agents	1482				
Charleston, A. G., and Co.	...	Mining Engineers	1485	Monger, J. and Co.	...						
Clark, Donald	...	Mining Engineer	1485								
Clarkson-Stansfield Concentrator (Ltd.)	...	Dry Concentration	1489								
Clayton and Shuttleworth	...	Engineers	1497								
Garnforth and Co.	...	Share Dealers	1485								
Cotton Powder Co. (Ltd.)	...	Explosives	1497								
Craddock, Ross & Co.	...	Mining Engineer	1489								
Crosby Lockwood and Son's	...	Publishers	1482								

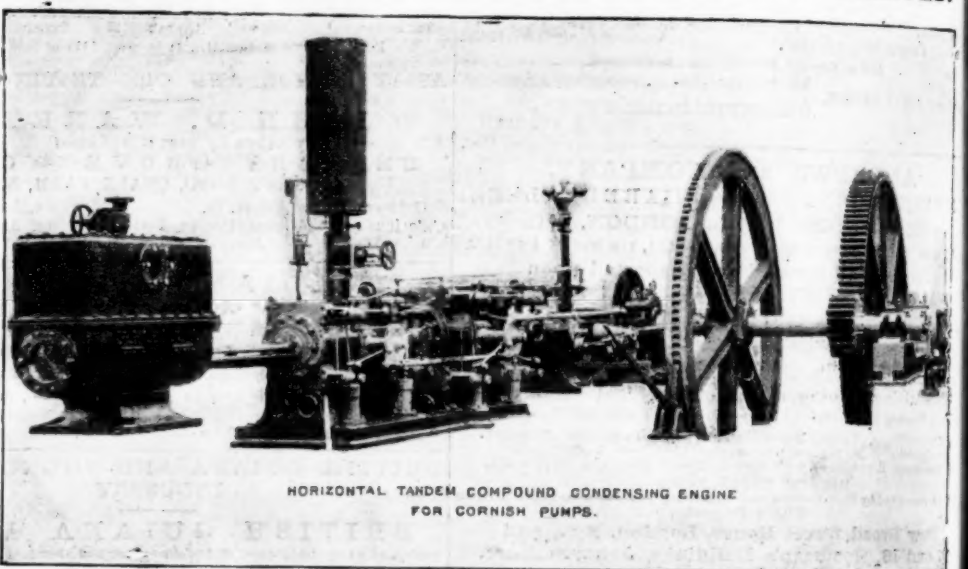
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HIGH-CLASS CORLISS STEAM ENGINES WITH
EFFICIENCY GUARANTEED.
BOILERS. PUMPS. ROCK DRILLS. DIAMOND DRILLS.
COMPRESSORS. PERFORATED METAL.
FINE CRUSHING ROLLS.
RIEDLER PUMPS AND COMPRESSORS.
SCHWABER SUPERHEATER.
PELTON AND TURBINE WATER WHEELS.

HOISTING ENGINES
OF BEST MODERN DESIGN.
Direct-Acting or Geared, Flat or Round Rope Drums.
COMPOUND ENGINES
OF SPECIAL DESIGN FOR HIGH DUTY.
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FOR ANY DEPTHS, SIMPLE OR COMPOUND.

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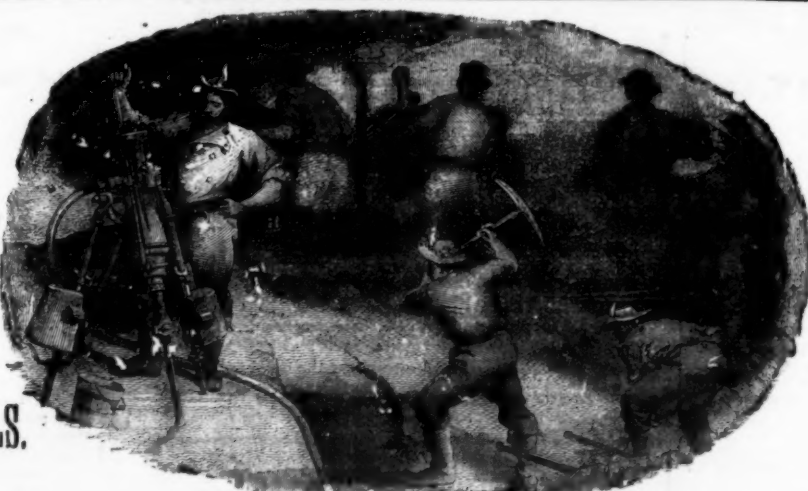
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ROCK DRILLS FOR STEAM OR COMPRESSED AIR.

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To H.M. Government, Council of India, Science and
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GOLD MEDAL, Inventions Exhibition, 1885
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TURBINES OF ALL EFFICIENT TYPES.
Hett's Patent Pelton Wheels.
CHAS. LOUIS HETT,
HYDRAULIC ENGINEER,
BRIGG, ENGLAND.

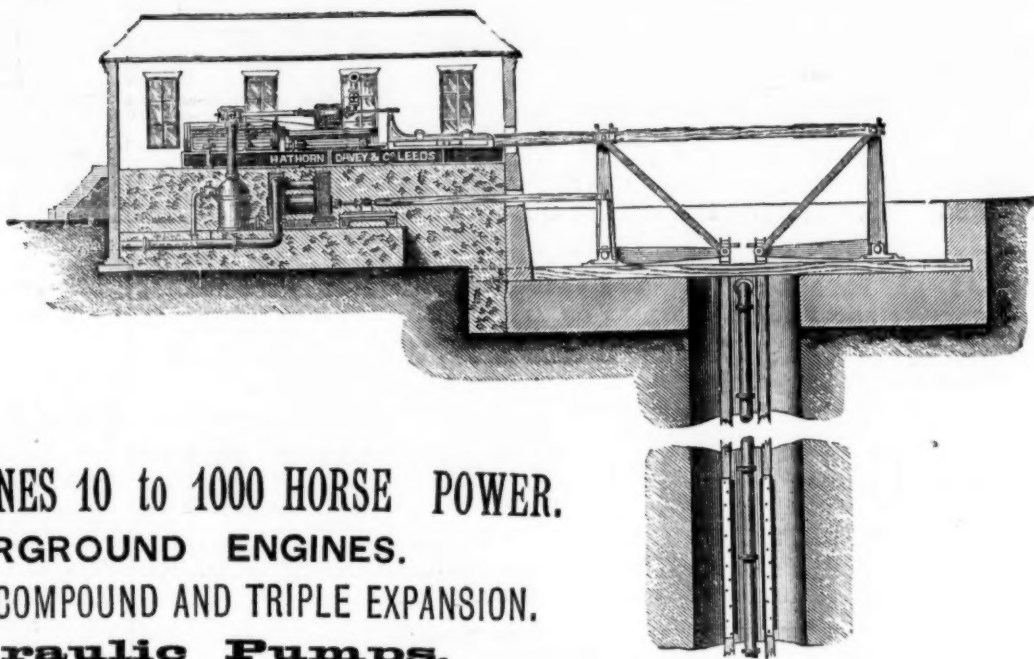
The COUNTY GENTLEMAN'S PAPER for Cheshire,
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The CHESTER COURANT goes into all the best houses,
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The DAVEY PUMPING ENGINE for DRAINING MINES

is in use all over the World, and unquestionably has proved itself to be without a rival in SAFE and EFFICIENT WORKING and ECONOMY.

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SURFACE ENGINES 10 to 1000 HORSE POWER.
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STEAM PUMPS, COMPOUND AND TRIPLE EXPANSION.
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CATALOGUES ON APPLICATION.

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"MINING PUMP" Catalogue.

SINKING PUMPS FOR MINES. NO TAPPETS, LEVERS, OR EXTRANEIOUS GEAR.

"EVANS and TONKIN'S" Patent "CORNISH" SINKING PUMPS have been used on all the recent modern sinking operations of importance, including

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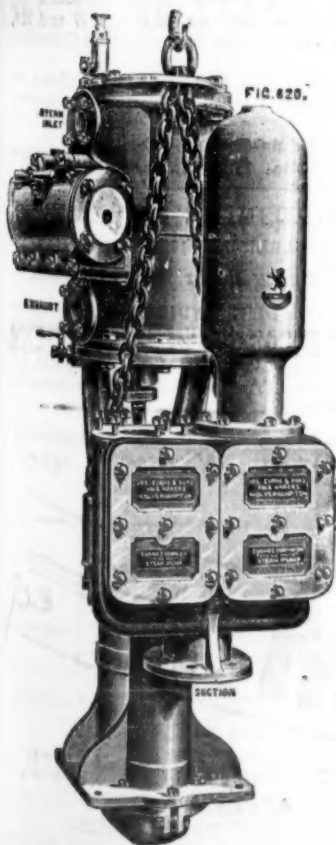
London Office
16, UNION COURT, OLD BROAD ST.
E.C.

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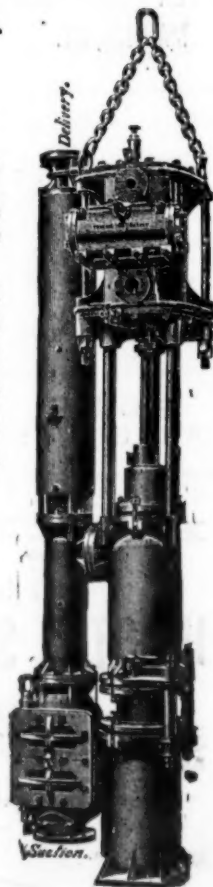
"GRIF" PATTERN
"CORNISH"
SINKING PUMP.



FIG. 875, "FLUOMETER"
PATENT STEAM VACUUM
PUMP.

The "CORNISH" STEAM PUMP.
The "DUPLEX" STEAM PUMP.
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The "RELIABLE" STEAM PUMP.

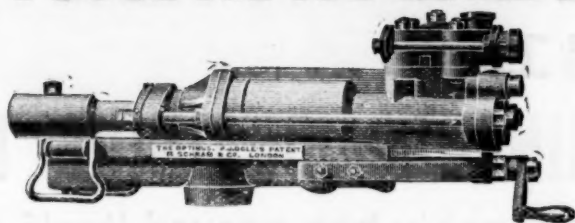
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REVOLUTION IN ROCK DRILLING



"OPTIMUS" COMPOUND ROCK DRILL.

(P. J. OGLE'S PATENT.)

Consumes 40 per cent. less Compressed Air than any other Drill at the same time giving the most effectual results.

AIR COMPRESSORS,

WITH COMPOUND AIR AND STEAM CYLINDERS,

Fitted with SCHRAM'S Inlet and Outlet Valves giving the greatest efficiency.

"SCHRAM'S" IMPROVED ROCK DRILLS,

SUPPLIED TO THE INDIAN, COLONIAL, AND OTHER GOVERNMENTS.

2500 IN USE IN ALL PARTS OF THE WORLD.

Hand-Power Diamond Prospecting Drills.

ESTIMATES AND FULL PARTICULARS ON APPLICATION.

RICHARD SCHRAM & CO., 17a, Great George St., Westminster, S.W.

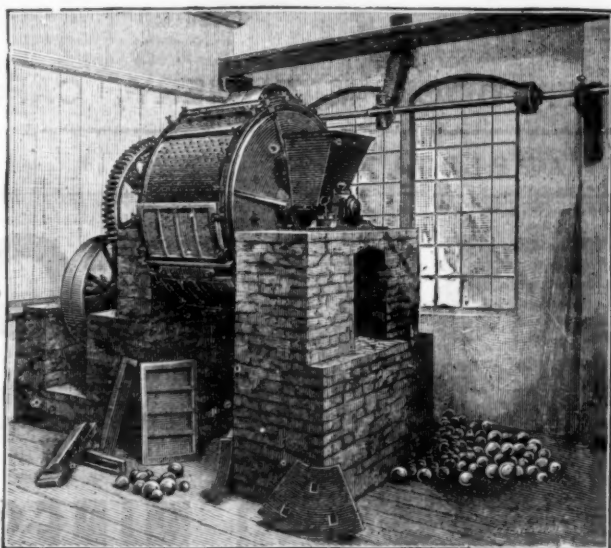
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1. Chilled Cast Iron, Cast Steel and Malleable Iron Articles.
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GOLD EXTRACTION MACHINERY.

(Laszlo' Amalgamators giving 20 to 40 per cent. more Gold than others.)

SILVER EXTRACTION MACHINERY.

STAMP BATTERIES.

Patent Ball Mills.
(Dry Crushers.)

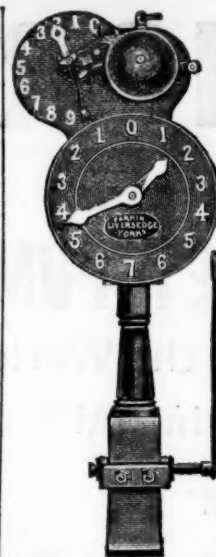
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3. Disintegrating Machinery of all kinds, such as Patent Ball Mills for Ores, Quartz, Cement, Basic Slag Grinding, &c. Excelsior Mills for Food Products, also for Tanneries, Chemical Factories, Sugar Factories, &c. Stone Breakers, Roller Mills, Crushers, &c., &c., Runners.
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IMPROVED Winding Indicators

WITH INDICATING SIGNAL BELL COMBINED.
As shown in Illustration.
Or either of the two separately as required.

Made to suit any Winding Engine or for hauling purposes; with Bell, to denote when to cut off steam; which can be altered in a few minutes to ring at any part required.

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WITH FULL NATURAL FLAVOUR.

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TO MINE OWNERS AND OTHERS

Having REFRACTORY GOLD ORES hitherto untreatable at a profit, the MACARTHUR-FORREST (PATENT) PROCESS OF GOLD EXTRACTION offers a solution of the difficulty.

The chief features of this Process are:—

SIMPLICITY, ECONOMY IN WORKING, and SMALL COST of PLANT.

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The Cassel Gold Extracting Co. (Ltd.)

Head Office—108a, Hope Street, Glasgow.
London Office—23, College Hill, Cannon Street, E.C.
Africa—The African Gold Recovery Co. (Ltd.), Johannesburg.
Australia—The Australian Gold Recovery Co. (Ltd.), 8, Post Office Chambers, Sydney, N.S.W., Charters Towers, Queensland, and James R. Fowler, 14, King Street, Adelaide.
United States—The Gold and Silver Extraction Co. of America (Ltd.), Denver, Colo.
Mexico—The Mexican Gold and Silver Recovery Co. (Ltd.), 2a, Calle de Providencia, No. 7, Mexico City, Mexico.
Chili—Mr. J. A. W. Murdoch, Calle Almendro, Valparaiso.
New Zealand—The Cassel Gold Extracting Co. (Ltd.), 6, Herald Buildings, Queen Street, Auckland.
Canada—Mr. W. Pellow Harvey, F.C.S., 717 and 719, Pender Street, Vancouver City, British Columbia.

The CASSEL GOLD EXTRACTING Co. (Ltd.) are manufacturers of CYANIDE, suitable for the MacArthur-Forrest Process.

For terms, apply at Head Office of the Company,
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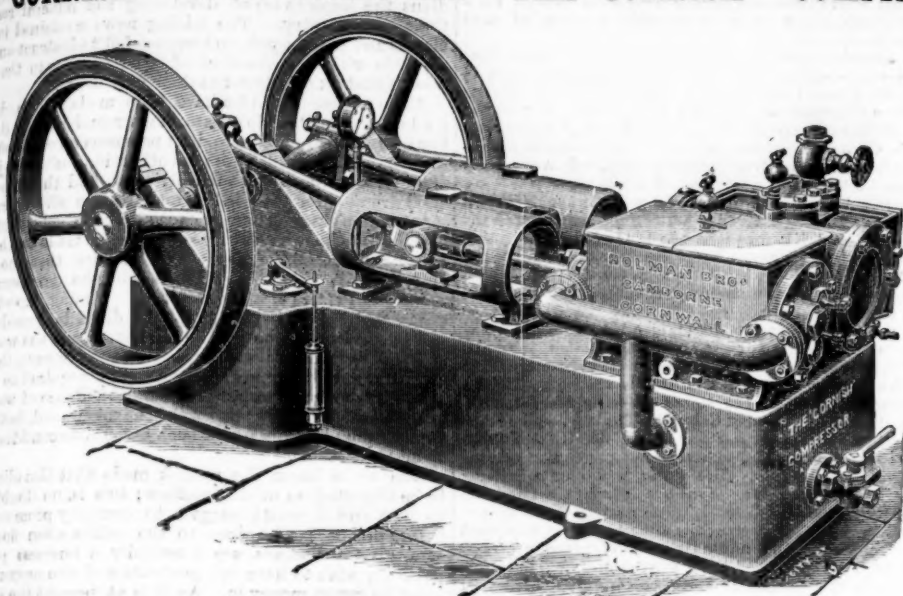
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HOLMAN Bros., Camborne, Cornwall.

ESTABLISHED 1838.

Patentees and Sole Makers of
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RECORD OF WORK DONE

At Botallack Mine, St. Just, Cornwall, **TWELVE MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** sunk, and rose **288 FATHOMS** in **12 MONTHS**, equal to five times the Speed of Hand Labour.

At Wheal Grenville Mine, Camborne, Cornwall, **SIX MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** started from the **150 FATHOMS** level and put up in **EIGHT MONTHS** a **11 FEET** by **5 FEET PERPENDICULAR RISE** **46 FATHOMS 5 FEET 6 INCHES**, and about midway drove **1 FATHOM 5 FT.** No communication of any kind was effected until holing to the Shaft brought down from surface.

Estimates for **ROCK BORING PLANT** and **GENERAL MINING MACHINERY** on Application.

London Offices: 7 and 9, LEADENHALL BUILDINGS, E.C.

AWARDS: CRYSTAL PALACE, 1890; TASMANIA, 1891; KIMBERLEY, 1892.

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The Clarkson-Stanfield Ore Reduction Co. (Limited).

In the **CLARKSON-STANFIELD** process of Concentrating Refractory and Complex Ores no water is required; dust is reduced to a minimum; the loss of Mineral through water-borne Slimes is obviated.

OUTPUT 1 TO 2 TONS PER HOUR, ACCORDING TO SIZE OF MACHINE.

CONCENTRATOR TO BE SEEN IN OPERATION AT THE COMPANY'S ONLY ADDRESS.

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The Machine is superior to Sieves for Sizing Homogeneous Substances, such as Emery, Sand, and Powders, and may be used to great advantage in the preparation of Ochre.

N.B.—The owners of the Carndochan Mine, near Bala, North Wales, will, by arrangement, show their **CLARKSON-STANFIELD** plant working on a Refractory Low Grade Gold Ore.

NEW PATENTS.

LIST OF APPLICATIONS for New Patents relating to Mining Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs Rayner and Company, Patent Agents, 31, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

- 19872 William George Hay, 15, St. George's Crescent, Liverpool.—Improvements in internal combustion engines.—October 26.
- 19873 John William Hulley, 40, Victoria Buildings, Manchester.—Improvements in apparatus for supplying air to furnaces for steam boilers and other purposes.—October 26.
- 19874 Guillaume Armand Nussbaum, 25, Edgware Hill, London.—Improvements in turbines or rotary engines.—October 26.
- 19875 Henry Ernest Ffr and Noel Gordon Hackney, 24, Southampton Buildings, Chancery Lane, London.—Improvements in the treatment of slugs and ores containing zinc.—October 26.
- 19876 George William Money, 312, High Holborn, London.—Improvements in couplings for shafts.—October 26.
- 19877 William George Clegg and Anthony Harris, 6, Lord Street, Liverpool.—Improvements in or relating to steam boilers.—October 26.
- 19878 Edward Ludwig Mayer, 46, Lincoln's Inn Fields, London.—Improved method of and apparatus for detecting fire-damp or other noxious gas or gases in the atmosphere of mines and other places.—October 27.
- 19879 George Paley, Bank Top Mills, Preston.—An improved regulator for steam engines.—October 28.
- 19880 John Smith, 11, Southampton Buildings, Chancery Lane, London.—Improvements in steam generators and in heat regulators for use therewith.—October 28.
- 19881 Henry Davis and Alfred Locks, 27, Southampton Buildings, Chancery Lane, London.—Improvements in miners safety lamps.—October 29.
- 19882 Donald Burns Morrison, 46, Lincoln's Inn Fields, London.—Improvements in stamp mills or apparatus for crushing ores and other substances.—October 30.
- 19883 John Thomas Dawnes, 4, Clayton Square, Liverpool.—Improvements in internal combustion engines.—October 31.
- 19884 James Lynne, 37, Buxton Street, Leeds.—An improved setting for steam and other boilers.—November 3.
- 19885 Robert Ferguson Strong, 16, Ely Place, London.—Improvements in the treatment of ores for the production of iron, steel, and other metals.—November 4.
- 19886 Mark Sharp, 144, Albert Road, Jarrow-on-Tyne.—Improvements in water gauges for steam boilers and other vessels.—November 5.
- 19887 Samuel James Lake, 27, Curzon Street, Chancery Lane, London.—An improved implement for digging.—November 5.
- 19888 Carl Homburger, De Keyser's Royal Hotel, Victoria Embankment, London.—Production of chloride of zinc and chlorine.—November 3.
- 19889 Charles Jennings, 55, Chancery Lane, London.—An improvement in the recovery of gold and silver from cyanide solutions containing the same.—Andrew Frederick Cross, South African Republic.—November 4.

SPECIFICATIONS PUBLISHED.

- 19880—Process for the treatment of metalliferous ores and products.
- 19882—Apparatus for treating nickel ores and other materials containing metal with carbon monoxide.

- 19883 Tischer and Penney.—Apparatus for extracting metals.
- 22251 Stephen.—Crushing and amalgamating.

The above specifications published may be had of Messrs. Rayner and Co., 35, Chancery Lane, London, at 10d. each, including postage.

JOINT-STOCK COMPANIES.

NEW REGISTRATIONS.

THE following are among the joint-stock companies registered at Somerset House since our last notice:—

- Errol Gold Mining Company (Limited).—Registered November 3 by Inglis, Holmes, and Sons, 20, Threadneedle Street, E.C. (capital £50,000 in £1 shares), to purchase, take on lease, or otherwise acquire freehold and other farms, properties, mines and mineral properties, grants, concessions, leases, claims, licenses, &c., in the colony of New South Wales, or elsewhere, and to prospect for, open, work, explore, develop, and maintain any diamond, gold, silver, copper, coal, iron, and other mines. Registered office, 110, Cannon Street.
- British Columbia Agency (Limited).—Registered November 3 by Inglis, Holmes, and Sons, 20, Threadneedle Street, E.C. (capital £100,000 in £1 shares), to purchase, take on lease, or otherwise acquire freehold and other farms, properties, mines and mineral properties, grants, concessions, leases, claims, &c., in British Columbia or elsewhere, and to carry on in all or any of their respective branches, the businesses of farmers, graziers, planters, miners, coal and iron masters, quarry owners, brick makers, builders, and contractors, merchants, dealers in gold and silver, diamonds, and other precious metals and stones. Registered office, 15 and 16, George Street, Mansion House, E.C.
- Yani Development Syndicate (Limited).—Registered November 4 by Rawlins and Co., 68, Gresham House, E.C. (capital £50,000 in £1 shares) to acquire and turn to account any mines, mining claims, mining rights, metalliferous lands, coal mines, fire clay beds, and other lands and properties in the Republic of Bolivia, South America, or elsewhere, and to carry on the business of a mining and metallurgical company generally. Registered office 22, Great St. Helen's, E.C.
- Inverell Diamond Fields (Limited).—Registered October 31 by White and De Barriatt, 38, Holborn Viaduct, E.C. (capital £150,000 in £1 shares), to adopt and carry into effect any agreements, to acquire mines, &c., in Australia or elsewhere. Registered office, 13 and 14, Abchurch Lane, E.C.
- Lake Carey Consolidated Gold Mining Company (Limited).—Registered October 31 by Lake Carey, 20, Abchurch Lane, E.C. (capital £100,000 in £1 shares), to carry on all kinds of exploration business, and in particular to search for, prospect, examine, and explore any territories and places in Australia or elsewhere. Registered office, Broad Street House, E.C.
- Macao Mining Company (Limited).—Registered November 2 by Gilling and Phillips, 20, Abchurch Lane, E.C. (capital £50,000, divided into 500,000 shares of 1s. each), to purchase, lease, or otherwise acquire, lands, estates, mines, mineral grants, mining concessions, rights and privileges, shares, ores, minerals, and other properties in the Province of Huaylas, Department of Ancash, in the Republic of Peru or elsewhere. Registered office, 11, Old Broad Street, E.C.
- British Queen Gold Mines (Limited).—Registered October 25 by Gibson, Weldon, and Bilbrough, 27, Chancery Lane, W.C. (capital £201,000 in £1 shares), for the acquisition of certain mining claims located in Swaziland, in the Natal District of British Columbia, and to acquire any gold mines, mining rights, leases, claims, auriferous land, &c.

JOHN DAVIS & SON,

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118, NEWGATE STREET, LONDON, E.C.
CARDIFF, JOHANNESBURG, CALCUTTA.

ELECTRIC LIGHT AND TRANSMISSION OF POWER.



Jeffrey Machines for Undercutting Coal.
WORKED EITHER BY COMPRESSED AIR OR ELECTRICITY.
OVER 600 IN DAILY USE.

ELECTRIC BLASTING APPARATUS
HIGH OR LOW TENSION
EXPLODERS
CABLES, FUSES.
Electric Signals
and
Telephones.

MINING AND SURVEYING INSTRUMENTS,
THEODOLITES, HEDLEY
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ALL PARTS INTERCHANGEABLE.

CATALOGUES UPON APPLICATION.
Sec. A. MATHEMATICAL & MINING INSTRUMENTS, MINERS' LAMPS, &c.
Sec. B. ELECTRICAL PLANT AND STORES.

MINING AND INDUSTRIAL EXCHANGE OF NEW YORK.

THIS EXCHANGE is in communication with every Mining District of the United States. It advises Investors as to the progress and condition of Mining Companies, and executes Orders for Stocks. It arranges for the Examination of Mining Properties by Qualified Experts at a reasonable cost. It has many first-class Productive Mines on its books for sale on strictly "rock" terms. Its business connections are of the highest character. All communications should be addressed to the SECRETARY.

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170, WASHINGTON BUILDING, NEW YORK CITY, N.Y.

CONTRACTS OPEN:

FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

*We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.

The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

Put up, November 21 (London City).—For supply of a double and a single section pump, to be erected at two well in Carrigrohilly, which is about 37 feet in depth, for the Guardians of Londonderry Union. Tenders, accompanied by drawings and specifications, must be lodged with Mr. W. L. Perry, executive sanitary officer, Poor Law Office, Londonderry, by 11 noon on 1st inst.

Pump, November 21 (Londonderry).—For supply of a double and a single section pump to be erected at two well in Carrigrohilly, which is about 37 feet in depth, for the Guardians of Londonderry Union. Tenders, accompanied by drawings and specifications, must be lodged with Mr. W. L. Perry, executive sanitary officer, Poor Law Office, Londonderry, by 11 noon on 1st inst.

Water-wheel, November 23 (Barton).—For the construction and fixing of a water-wheel at their sewage-outfall works, Ashwood Dale, Barton, for the Urban District Council. Particulars and further information may be obtained on application to the Town Surveyor, Barton. Tender to be sent in accompanied by specification, not later than 25th inst.

Engine, November 26 (Middletown, Holland).—For the supply of a 20 h.p. engine. Application to the Direction of the "Vier Noorder Koggen" Publiek at Middeltown.

Adit Sinking, November 30 (Lichfield).—For sinking a shaft and driving an adit (contract No. 1), and for a boring 12 inches diameter and 150 feet in depth (contract No. 2), at their waterworks, Wallall Road, Lichfield, for the trustees of the Lichfield Canal Land. Printed copies of the specification and form of tender and contract may be obtained on application. Tenders must be on the forms issued by the Board enclosed in an envelope, sealed, and endorsed "Tender for Sinking a Shaft" or "Tender for Boring," as the case may be, and delivered by 12 noon on November 30 at the office of Mr. Alan E. Ward, The Close, Lichfield. Applications for specification and forms of tender must be accompanied by a fee of £1 1s., which will be returned on receipt of tender.

Rolling stock, December 1 (Buckarest).—For 200 closed and 200 open railway goods wagons. Application to the Roumanian State Railway Department at Bucharest.

Railway Construction, December 9 (Brussels).—For the construction of a local light railway from Lige to Barchon. About £1,000. Application to La Société Nationale des Chemins de fer Vicinaux, Bruxelles, rue de la Science 25.

Light Railways, February 25 (Puerto Rico).—His Majesty's Secretary of State for Foreign Affairs has received from H.M. Ambassador at Madrid a tract from the Madrid Government containing the conditions under which tenders are invited by the Spanish Government for the construction of certain light railways in Puerto Rico. Such tenders are required to be delivered either at Madrid or at Madrid by February 25 next. The extracts above referred to which are in Spanish, can be inspected any day at the Commercial Department of the Foreign Office between the hours of 11 and 6.

MINING IN VICTORIA.

SOME QUARTERLY RETURNS.

(FROM OUR VICTORIAN CORRESPONDENT.)

A GRATIFYING feature of the Ballarat quarterly mining returns, as compiled by Mr. W. A. Christy, the Registrar for the Central division of the Ballarat district, is that there is an increase of 2548 ounces in the output of gold in the division. The aggregate yield of gold for the three months ending in September is 19,812 ounces, as against 17,266 ounces for the June quarter, and 14,116 ounces for the preceding term. The Last Chance United, Britannia United, and South Star companies have had larger yields, and the Central Plateau figures for the first time among gold winning ventures. The total is largely increased by the Grey Horse, a Scottish company, especially equipped for the treatment of low grade quartz. They have crushed 6822 tons for 1825 ounces 6 dwts., an average return of 5 dwts. 8 grains per ton, and, as the cost of working is exceedingly low, there is a fair margin for profit in the figures. It is of interest to note that, notwithstanding the number of operations for other fields, 2704 miners are employed, or 148 more than found work during the June quarter. The total quantity of quartz crushed was 56,877 tons for 18,031 ounces, or 6 dwts. 8-42 grains per ton. The average, however, is slightly below that of the preceding term, when it was 6 dwts. 21 grains per ton. The Last Chance Company disbursed £3600 and the South Star £1000 in dividends.

The Mining Registrar's returns for the quarter ended September 30 shows the gold yield for the Blackwood division in the Ballarat district to be 680 ounces 15 dwts. 5 grains, which is somewhat lower than that of each of the three previous quarters, but a slight advance on that of the corresponding quarter of last year. The yield from quartz amounted to 232 ounces 10 dwts. 12 grains, the principal return being 74 ounces from 90 tons of stone mined by the Sultan tributaries. The alluvial yield for the quarter totals 448 ounces 4 dwts. 17 grains, but most of it was got by small parties reworking old ground. The only return of any note was 13 ounces from 23 tons of cement crushed at Staughton's battery.

The mining returns for Maryborough for the July-September quarter have been complete, and show the total to be 6297 ounces, the greater portion of which comes from the alluvial quartz. In quartz Sharpe and Barry have 359 ounces 4 dwts. 19 grains (from 3010 tons), and Snowdon and party 308 ounces 19 dwts. 21 grains. The other chief contributions are:—Ellis and party, 43 tons; 35 ounces 12 dwts. 18 grains; McFarlane and party, 16 tons, 12 ounces 14 dwts. 9 grains; Hoskins and party, 6 tons, 24 ounces 13 dwts. 2 grains; McCann and party, 41 tons, 18 ounces 14 dwts. 6 grains; Chadwick and party, 41 tons, 25½ ounces; Bishop and party, 41 tons, 27½ ounces; Eley and party, 21 tons, 42½ ounces; Noller and Abbott, 15 tons, 19 ounces 13 dwts. The quartz returns total 1637 ounces 0 dwts. 1 grain. The alluvial returns are:—North Duke, 20 tons, 219 ounces 9 dwts.; Chalk's No. 1, Caribbrook, 2549 ounces 15 dwts.; total, 4686 ounces 4 dwts. Bank purchases:—Alluvial, 8015 ounces 17 dwts. 12 grains; quartz, 1765 ounces 1 dwts. 1 grain; total, 9781 ounces 4 dwts. 13 grains. The excess of bank purchases over apparent production is accounted for by fanciers, who sell gold which is not reported to the Registrar. Several nice nuggets have been accounted for in this way during the quarter.

The total amount of gold obtained for the Taradale Division, in the Castlemaine district, for the quarter ending September 30 was 1511 ounces, being 703 ounces greater than the yield for the quarter ending June.

The quarterly mining returns prepared by the Mining Registrar show that during the past three months in the Peasant Creek division (Stawell), in the Ararat district, 7425 tons of quartz were crushed, for a yield of 2789 ounces 10 dwts. 16 grains, as against 6598 tons treated during the preceding quarter for 2851 ounces. There is a large increase in the quantity of quartz tailings treated during the past quarter, when 10,283 tons were dealt with for a yield of 654 ounces 2 dwts. 12 grains, as against 7535 tons treated in the June quarter for 133 ounces 7 dwts. 12 grains. The dividends from the Magdala-cum-Moonlight Company for the term amounted to £3932, or £655 6s. 8d. per share. The gold purchased by the local banks for the three months amounted to 4938 ounces 8 dwts. 1 grain, of which 1439 ounces 13 dwts. 18 grains was alluvial gold and 3498 ounces 14 dwts. 7 grains quartz. The yield from the John Woods claim (Recreance section) continues to be very satisfactory.

The Mining Registrar for the Mitchell division of the Gippsland mining district reports the yield of gold for the quarter ending September 30 to be 2347 ounces 2 dwts. 8 grains, making a total of 7643 ounces 7 dwts. 20 grains for the nine expired months of this year. During the whole year 1895 the yield for this division was 8726 ounces 18 dwts. 22 grains, and that was a large increase on the previous year. The last quarter's returns would have been much larger but for the frequent heavy rain and consequent floods during the period.

The best crushing recorded in Bendigo for some months comes from the Catherine Reef battery, where six loads sent in from Tarnagulla by Smith and Co. yielded 108 ounces, giving the very fine return of 18 ounces to the load.

The Warrandyte Field,

Mr. Reginald Murray, the Government geologist, has furnished the Minister of Mines with a report on the result of his recent inspection of the reefs at Warrandyte, a few miles from Melbourne. He states that about a mile up the Yarra from the township there is a dyke formation, which was extensively worked years ago, along a spur on the south side of the river. It has been followed along the spur and proved auriferous for fully a mile, but it does not seem to have been followed below the water level. It is asserted that some 15,000 tons were crushed for an average yield of $2\frac{1}{2}$ dwts. per ton, which was a payable return, considering the ease with which the stuff could be mined and crushed. Speaking of this formation, Mr. Murray expresses the opinion that it is well worthy of further development by means of sinking on the underlay side of the dyke, so as to command it at a depth, and the work is in a systematic manner. Good stone, he remarks, is being raised by the Yarra Tunnel Company, and also from the Black Swan reef. After describing the old workings on the Murrumbidgee, Bendigo, Pigtail, and Loyal Liberal reefs, he concludes by stating that the general width of the Warrandyte reef was about three-quarters of a mile, and, from all he could ascertain, there was ample encouragement for re-working the mines at greater depths.

New Discoveries.

New Discoveries. A discovery of some importance at Mount Tara, near O. east, in Eastern Gippsland, has just been made public. Arthur Lawrence, a prospector, who has been in the vicinity for some time, found a quartz lode formation in places 200 feet wide. Surface specimens in blocks weighing up to 3 cwt., carrying rich gold, were found. Very rich lode prospects have also been got. A trench put into the lode showed good gold in the soil

stone, prospecting up to 40 ounces per ton by mortar test. For 40 feet across gold was found, and no wall is showing yet. Three leases have been pegged out. This discovery enhances the value of previous finds. The large specimens on view here are impregnated with gold, and they have created great interest.

Another discovery of a gold-bearing quartz reef is reported from the Neerim district, in Western Gippsland, and appears to be of a promising character. It was discovered at Ironstone Creek, near Neerim South, by Messrs. Pranana and A. Milner. The reef is about 4 feet wide, and a small sample crushed with a mortar gave a return equal to 5 ounces to the ton. A prospecting company has recently been formed to test the Hidden Treasure claim. The shaft is down 25 feet, and the party are now driving to cut three leaders running through a 60 feet formation. A number of prospectors and miners are working out in the Noojee gullies and ranges, and making good wages in alluvial country.

The gold discovery reported from Tarnagulla is even better than anticipated. The prospectors in sinking found a reef going down $1\frac{1}{2}$ foot in width. Gold is showing freely. From one dish of stone gold to the estimated value of £280 was taken. On the claim further north good prospects are being obtained. Prospecting is going on vigorously along the supposed line of reef. There can be no doubt that this is one of the richest reefs ever opened in this district, which was famous in the early days of Victorian mining for 50 ounces and 100 ounces to the ton. The mining industry in this locality is going ahead. Several large properties have been bought, and will be worked.

Some Walhalla Mines.

The Long Tunnel Company cleaned up for September on Tuesday last, and a return of 1964 ounces of gold was obtained from 2058 tons of stone. This is an increased yield over that of August by 128 ounces, and is a further improvement, as the quantity of stone crushed is less by 15 tons. At a meeting of the directors a dividend (the 250th) of £1 per share was declared and £120 added to the reserve fund.

For the third week since last monthly wash up the Long Tunnel Extended Company has obtained 561 ounces of amalgam from the plates, making a total for the three weeks of 1593 ounces. This is an increase of 41 ounces for the same period of August, an only 19 ounces less than the three week's yield of August. The monthly wash up for September has taken place, and a return of 2963 ounces of gold was obtained from 1115 tons of stone.

The Great South Long Tunnel Company cleaned up for September last, and from 1200 tons of quartz crushed 399 ounces of retorted gold were obtained.

A telegram also came to hand from the Mining Registrar at Wadhalla, notifying that good gold-bearing stone had been struck in the North Long Tunnel Mine. The reef is over a foot wide, and the stone is estimated to yield over 1 ounce to the ton.

In the Pyrenees.

That the ranges of the Pyrenees about Redbank have given in the past rich returns for mining operations is well known. That there are large quantities of payable stone still to be obtained in that locality is the firm conviction of mining men generally.

Redbank, 15 miles beyond Avoca, is one of the "neglected gold fields," which, in "the sixties," was the centre of a large, busy, and prosperous community, but, as in the case of many others in Victoria, the alluvial was worked out, the quartz exploited only so far as it could be dealt with by primitive machinery, and the field deserted for new finds.

Latterly the stagnation in other industries, and the effort to find outlets for the investment of money withheld through lack of confidence from other commercial enterprises, has led to a re-examination of many of these neglected areas, and among them the Pyrenees.

The result here is that a number of old mines have been found to promise so well for further working that they are to be reopened, and other properties on which good prospects have been found are also to be exploited in a thorough and systematic manner.

The Central Plateau Mine, Ballarat.

At the half-yearly meeting of shareholders, held at Ballarat a few days back, Mr. Alex. Gilpin presiding, the reports were adopted, all showing the prospects of the mine to be very good. The Chairman announced that in a short time the company would be on the dividend list. Last crushing had given a handsome profit. He congratulated the shareholders on their satisfactory position. Six weeks ago the company were in debt to the extent of £1900, but now they had a credit balance. From crushings like that which had been obtained from the mine on the previous day they should be able to pay a dividend of 2s. per month at least, and perhaps 4s. per month. Stone 4 feet wide, giving 18 dwts. to the ton, had always been considered excellent, but in the Central Plateau Mine the lode was 30 feet in width, and was yielding over 18 dwts. to the ton. Everyone at the meeting knew what the prosperity of the Central Plateau Mine meant for Ballarat, if not for the colony. It was resolved to increase the salary of Mr. Acheson, the legal manager, to £4 per week, and the fees of the auditors to £2 2s. each. The Chairman stated the salary of the mining manager, Mr. B. Dingle Mitchell, had been raised from £4 10s. to £6 per week.

week. Mr. Binnie intimated that he wished, owing to ill-health, to retire from the chairmanship of the company. The announcement was received with regret, and Mr. Alex. Gilpin was elected Chairman. The Central Plateau Company, so far as can be judged by recent developments at the mine, is generally considered by the most experienced mining men in the district to be on the eve of a long and prosperous future. Whether these sanguine anticipations will be fully realised or not can only be determined by a continuance of active operations, and meanwhile it is satisfactory to note that for the last few weeks there has been a steady, uninterrupted improvement in the main workings. The company has been in existence nearly 11 years, and during that time capital amounting to over £38,500 has been called up, and among various other large items of expenditure in carrying on expensive prospecting work, £15,504 has been paid in day wages, and £4967 in contract labour. The claim has an extent of country of about 3000 feet along the line of the lode, and shareholders, having recently made a satisfactory re-arrangement with the landowner, are now only subject to a royalty of 5 per cent. on the gold won. Since operations were resumed a little over a year ago, Mr. B. Dingle Mitchell, the mining manager, was satisfied that it was only a question of time when the southern continuation of the Guiding Star lode from the South Star Company's ground on the north would be reached. A survey prepared by him in August, 1891, in which

reached. A survey prepared by him in August, 1891, in which he based his calculations on the known position of the lode in the Star of the East, the Band and Albion, and the Northern Star claim, showed that unless there were some unknown displacement it would strike 570 feet west of the Central's shaft. Following upon this, it was discovered that a break in the South Star's ground threw the lode 116 feet further west. The crosscut, however, was extended to 700 feet, and instead of

meeting the lode as was expected, they got into flat leaders. These carried gold—the first seen in the mine—and it was found that the line of the country was gold-bearing right up to a slide which was cut at this point. It was then decided to follow the break, and a drive was put in along it on an average bearing north 34° east for a distance of 309 feet, when the lode was discovered. As the drive advanced on the stone it was turned north, and is now following the lode on its true course. About 240 feet has since been driven, and the stone has gradually widened out to 30 feet, and still appears to be making larger, the face continuing to show good gold across its full width. A rise is up 100 feet above the back of this level, proving a large body of stone to a height of 55 feet, thence narrowing to from 2 feet to 3 feet wide at the top. It is considered more than likely, however, that by driving west the large body of stone will be found to continue upwards. A start was made to follow the slide southwards, but after proceeding a short distance a big irregular body of stone, varying in width from 12 inches to 7 feet, was struck, and this has been followed in the hope of picking up the lode in that direction. The face is about 561 feet from the crosscut, but the circuitous course of the drive has not yet reached the north and south line of the lode. The country throughout carries leaders, some of which are showing splendid gold. In this part of the workings a rise has been put up 20 feet, and a crosscut driven east from it for 80 feet, also through leaders, and proving a large area of gold-bearing country. At the 980 feet level the break has been followed as at the level above. Here they are at a distance in a vertical line of from 120 feet to 180 feet back from the face of the north drive at the 860 feet level. At 90 feet from the main drive they got on to a track corresponding with that in the higher level, and are now driving northwards along it. The walls are about 6 feet apart, and the stone from 4 feet to 5 feet thick, about 3 feet of it being very promising, carrying, as in the case of that in the two levels above, plenty of black jack and galena, and although no gold has as yet been seen in it, the manager is quite satisfied that it will open up satisfactorily. The drive north west on the slide carries about 1 foot of stone, with a number of leaders showing gold coming in from the west, and this is all going to the battery. A good stream of water is coming in, and all the signs are favourable for the lode being met shortly. At this level also a drive has been put in south through very promising country, carrying a number of gold-bearing leaders. According to the latest survey, the face of the north drive at the 860 feet level is 400 feet away from the South Star boundary. It will thus be seen that there is every reason to anticipate a prosperous future for the property, and consequently a fresh impetus to mining in the district. The claims further south on the line are those of the Sebastopol Plateau No. 1 and the South Star Extended. The latter is not now working, but an effort is being made to resume operations. A good deal of work has been done at the Plateau No. 1, under the supervision of Mr. R. Jeffreys, the mining manager, and they are now driving north at the 903 feet level on a large body of nicely laminated and well mineralised stone, and the prospects are at present highly encouraging. They are also cross-cutting for the stone at 1000 feet deeper, and it is quite probable that explorations in the immediate future will considerably enhance the value of the property.

The "Wild West Coast" of Tasmania.

An interesting handbook, giving valuable maps and details concerning the past and present position of the mining industry on the west coast of Tasmania, has been compiled by Mr. G. A. Lawson, of Melbourne, who has compressed into a brief space much information respecting the Mount Lyell, Curtin Davis, Mount Reid, and the Dundas districts, and also the Zeehan silver fields. An intimate knowledge is displayed as to the character of the mineral deposits and mining developments, and it is apparent that Mr. Lawson has made an earnest attempt to bring his information well up to date. The little volume is well printed and capably illustrated with views, and should prove of especial interest to investors in Tasmanian mines.

The Bayley Reward Mines, W.A.

Extraordinary general meetings of shareholders in the Bayley's Reward and Bayley's Reward No. 1 South Companies were held in Melbourne during the week. The attendance was small. Mr. Molesworth Greens presided. It was announced that on September 21 the shareholders in both companies had agreed that the companies be amalgama'ed, and the mines worked as one by a new company, with a nominal capital of £155,000, in 620,000 shares of 5s. each. A series of resolutions confirmatory of the shareholders' actions at such meeting were now proposed by the Chairman, and carried unanimously without discussion. Mr. Essington King was appointed as liquidator of both the old companies. The new company is to be known as the Bayley's United Gold Mines (Limited). The Chairman stated that all the shareholders could apply for the same number of shares in the new company as they held in the old company, and would then become liable for 1s. 3d. per share—3d. on application, 6d. on allotment, and the balance to be called up when necessary. Supposing that all the shareholders did not apply for the shares (and, the shareholders being scattered all over the world, they might not do so), then those shares unapplied for could be allotted *pro rata* amongst the shareholders who applied for such. The shareholders would have to pay 9d. per share, and have a liability of the rest of the 1s. 3d. per share, and so get shares for 1s. 3d. each which were worth in the market 5s. There might be few or there might be many unapplied for, and it was well to let shareholders know their privileges. This completed the business and the snuffing out of the famous Bayley's Reward, which many Melbourne investors will long remember to their sorrow. The office of the new company will be in London. May it have brighter times and be successful.

The following mining dividends were paid in September:—
 Berry Consols, 1s.; Brilliant, 4d.; Brilliant and St. George, 9d.;
 Chalks, 6d.; Catherine Reef, 6d.; C.T. Pyries, 6d.; Columbia
 and Smithfield, 6d.; Great Northern Extended, 1s. 6d.; Eldo-
 rado, 3d.; Koch's Pioneer, 6d.; Lady Victoria Buxton, 2s.;
 Long Tunnel, 20s.; Long Tunnel Extended, 10s.; Lord Nelson,
 1s.; Lust Chance, 6d.; Madam Barry West (2), 1s. and 1s. 6d.;
 May Flower, 6d.; New Loch Fyne, 2s.; New Argus, 6d.; New
 Moon (2), 6d. and 6d.; New Wyndham (2), 3d. and 3d.; New
 Chum Railway, 1s. 6d.; New Royal Standard (2), 1s. and 6d.;
 North Smithfield, 6d.; No. 1 North Phoenix, 6d.; No. 4 North
 Phoenix, 1s. 6d.; No. 1 North Glanmore, 1s.; Outtrim and
 Howitt Preference, 10s.; Prentice Freehold, 1s.; Phoenix
 Golden Pile, 1s. 6d.; Queen Cross, 6d.; South German, 2s. 6d.;
 South Star, 6d.; St. Mungo (2), 6d. and 6d.; Toombon, 6d.;
 United Brothers, 6d.; Virginia (final), 1½d.

The following mining dividends have been announced for payment in October:—Brilliant, 4d.; Berry Consols, 1s.; Chalk No. 1, 1s.; Duke's Estate, 2s. 6d.; Koch's Pioneer, 6d.; Lord Nelson, 1s.; New Moon, 6d.; New Chum Railway, 1s.; New Red, White, and Blue, 6d.; New Wyndham, 3d.; North Prince Regent, 3d.; No. 1 North Glanmore, 1s.; Prentice Freehold 1s.; S. German, 2s. 6d.; Shenandoah, 6d.; St. Mungo, 6d.; Stewart's United, 6d.; United Brothers, 6d.; Victoria, C.T., 6s.; Croesus Extended, 9d.

MINING IN THE UNITED STATES.

(FROM OUR OWN CORRESPONDENT.)

A colossal project for the English market.—New gold developments in Montana.—Some very active Cripples.—Gold galore in New Mexico.—The yellow metal in New York State.—The probable effect of the recent election.

NEW YORK CITY, Nov. 8, 1896.

AN important piece of news has just reached me which may well prove to be the announcement of a new era of industrial progress. I hear from Pittsburgh that immediately upon the result of our recent election becoming known, steps were taken for conveying an invitation to your investing public to co-operate in a gigantic undertaking which has been carefully prepared for some years past. And, by a singular coincidence, it is directly in line with a recent suggestion in this correspondence and with the recommendations contained in your own editorial columns of October 24.

The plan in question involves the establishment of a vast central station for the production of light, heat, and power to be supplied to the city of Pittsburgh and the surrounding district. Instead, however, of locating this station in the coal-fields of West Virginia or south-western Pennsylvania, it is intended to place it on the bank of the river Monongahela, a short distance above Pittsburgh, and to supply the raw material in the form of water-borne coal from the mines higher up the stream. It is calculated that the coal can thus be delivered to the central station at a total cost of 60 cents per ton, and that thus a considerable economy can be effected as compared with the expense of generating gas and electricity at the mines, and then transporting them by pipes and wires to Pittsburgh. When the coal arrives at the station it is to be coked in apparatus of the Otto-Hoffman type, whereby the products of the dry distillation, namely, tar, ammonia, and benzene, are saved. The coke will then be converted into water-gas by heating with steam; and this gas, enriched with the benzene, is to be distributed to consumers in Pittsburgh and the district generally as a source of light, heat, and power, while the tarry and ammoniacal matters are to be sold to chemical factories.

I understand that the existing Pittsburgh companies for supplying illuminating and fuel gas have consented to transfer their undertakings to the new enterprise, and that the great Solvay Process Company of Syracuse, N.Y., has not only taken a large interest in the scheme but has agreed to purchase the whole of the tar and ammonia produced. The importance of the consolidation thus arranged will be evident when I mention that one of the gas companies is the owner of no less than 900 miles of distributing pipes already laid and in service. And when I add that the estimated price at which will be sold a plentiful supply of gas suitable for both illuminating and heating, as well as for use in gas-engines, is only 18 cents per 1,000 cubic feet, it is a mere matter of common-sense inference to conclude that this gigantic consolidation must obtain a practical monopoly. Your investing public will soon be in a position to judge of the matter in block and in detail. One of the promoters is now on the Atlantic armed with a full budget of statistics, estimates and contracts. His mission is to ask the London promoters to introduce the enterprise to the English purses which he proposes to relieve of some 10,000,000 dollars; not, be it well understood, in the way of mere conveyance, but in return for an investment as well-grounded, as secure and as certainly profitable as was ever proposed.

If this proposal be approved of and entertained we shall at last enjoy the satisfactory spectacle of seeing the use instead of the abuse of the great stores of energy which Nature has put at our disposition in the shape of coal. It is no exaggeration to say that the industrial power of the great Pittsburgh district will at once be doubled. This means that our other principal manufacturing centres will have to fall into line; and if we on this side of the Atlantic suddenly speed ahead we shall lead you in Europe such a dance that in very self-protection you will be compelled to adopt similar methods. And then, with vastly cheapened light, heat and power, there must surely come an expansion of industry and an augmentation of prosperity and material happiness which will start the twentieth century on its way rejoicing.

There is, however, one feature about the Pittsburgh project which should not be overlooked. The district in question and its sources of coal supply are so situated with regard to water-carriage, that it becomes not only practicable but positively economical to bring the coal from the mines to the point of ultimate utilisation, instead of working it up at the point of extraction. This condition of the industrial problem is unique. No other great centre of consumption of light, heat, and power is to be found similarly situated in the United States. If, then, the idea of vast central energy stations is to be adopted by Chicago, New York, Philadelphia, and Boston, it must be in a manner suitably modified. The coal fields themselves must be utilised as the stations. It is well also to bear in mind the important distinction that exists between coking at a high temperature and distillation at a low heat. In the former case the volatile constituents of the coal are decomposed; in the latter they are preserved and can be collected in forms having great commercial value. Hence, if an energy station were established on the principle of distillation instead of coking, the so-called "by-products" would by themselves cover the whole working costs, and would yield a large divisible profit in addition. Accordingly, it is quite possible for a Chicago Energy Supply Company to be formed, which shall sell light, heat, and power to the inhabitants of that enterprising metropolis of mid-America at rates below those to be charged by the Great Coke and Gas Corporation, about to be established for the benefit of Pittsburgh. Your promoters need not, therefore, complain that Othello's occupation's gone, simply because the Solvay people and sundry coadjutors from the Iron City are first in the field of application to the British public.

The accounts I gave you some time ago of the great gold discovery at the Mayflower Mine, near Whitehall, in Montana, has been more than confirmed by recent developments. Nothing in the State has ever shown up such rich ore and such profits for the work done. The mine has already produced over 300,000 dollars, and all from a very small hole in the ground, measuring less than 50 feet in length and only some 65 feet deep. The ore shoot occurs in a well-defined fissure—but not a vein in the ordinary acceptance of that term—for the lode conforms to the bedding, and is really a slipping or shearing plane in a series of upturned nearly vertical beds of impure limestone carrying slate largely. The surrounding country is blanketed with a volcanic breccia, which rests upon a formerly very uneven and hilly country. On the Mayflower Hill the sedimentary rocks project through this formation, and thus the ledge becomes exposed to view, together with the quartzite bed that forms the basal or oldest member of the rock series, and also the capping of heavy bedded white limestone that lies above the ledge. The prospects appear good for pay-shoots of ore for a considerable length along

the lead, but there is little ground for any favourable predictions for the adjacent side-claims. Most of the locations show no ore, though the rock resembles the Mayflower in appearance.

The Cripples are going it. They intend to make 1896 a banner year. The Independence produced 900 tons of very rich ore during October; and the Portland is shipping daily about 70 tons. The Gold Craters output for October was 275 tons of 35 dols. ore, while the Raven was credited with 225 tons of 80 dols. rock, and the Anaconda shipped some 80 tons daily of 30 dols. ore from a 6 foot tunnel vein in the upper tunnel. The Gold Coin last week shipped 20 cartloads to the cyanide works at Florence; and from its new strike under the hotel in Victor, 8 tons of very rich mineral were taken out by two men in three days. The Favorite is producing 40 tons weekly of 168 dols. ore; and the Moon Anchor and Pharmacist are shipping 90 tons and 40 tons respectively every week. In addition to all these, I have noticed many good returns from other mines. Altogether, therefore, Cripple Creek seems to be in a condition of very vigorous youth.

For some time past favourable accounts have been coming in from New Mexico. I think the day is not far distant when that territory will be recognised as being extraordinarily rich in gold. Year after year I have conversed with miners who have prospected and worked amid its mountains and valleys, and they have told me stories that if known and if the locality were only in some lone wilderness instead of being easily accessible would have caused a rush of more than Coolgardie dimensions. I strongly recommend your promoters and investors to take the pains to acquire some accurate knowledge of what New Mexico really is. It will pay them handsomely to do so. Smelters and reduction works can be established at many points with an absolute certainty of success; and rich gold mines are, figuratively, to be had for the asking. Six-ounce ore is common enough. A fine discovery of rock that ran from 6 to 13 ounces was made at Crown Point last week. The Cochiti District is sending rich gold ore to the smelters at Pueblo. In Taos and Colfax countries the various mining camps are all reported as being very active and productive.

In my last week's letter I spoke of gold in New York. Since then an editor of my acquaintance has received a letter from Durhamville, N.Y., in which the writer says he has located 32 mines in St. Lawrence County, and gives a list of nine essays of ore taken from the same. The lowest value reported is 15 dols. per ton and the highest 901 dols.; all of the samples being taken from between the surface and a depth of 14 feet. The letter concludes as follows: "I have discovered mines enough in this State to flood the gold market for the next ten years. I will admit that these statements seem incredible, but they are, nevertheless, true, as I can prove my statements by showing deposits—the ore will speak for itself." The Editor tells me he intends sending a special correspondent to Durhamville, and he promises to let me have a report of the facts when ascertained.

Your readers may desire to know the general effect of our recent election upon the mining industry and mining investments here. I can state positively that the result is favourable in both directions. My advice from the west indicates that the silverites are taking their defeat with philosophic equanimity, and are preparing for the extended development of every district; while the brokers and share-dealers report a rise of values all along the line. If English, French, and German investors wish to secure good dividends with satisfactory security and the certainty of a rise in the selling values of their holdings, they will do well to put themselves in communication with the London agents of respectable offices on this side. An excellent choice of first-class stocks is to be had; and as it will be some two years before a new electioneering campaign can take shape, there is a corresponding opportunity of progress and profit. Indeed, I wonder that some of your enterprising brokers do not make a specialty of dealing in the shares of good American mining companies. The securities would soon become popular if pains were taken to explain their *bona fides* and intrinsic worth, particularly now that the bugbear of the "depreciated dollar" has been scared away. Of course, there are certain difficulties of detail to be arranged for in such a business, but your people would find the New York brokers, bankers, trust companies, and exchanges disposed to facilitate matters. I understand that the Mining and Industrial Exchange of New York will very shortly give the suggested system a trial by opening a London agency. The experiment will prove an interesting one, for if anything like a solidarity of the mining investment circles of Europe and the United States can be brought about, so as to ensure mutual goodwill and confidence, the result cannot fail to be of great advantage to miners everywhere.

OUR SOUTH AFRICAN LETTER.

(FROM OUR OWN CORRESPONDENT.)

JOHANNESBURG, OCTOBER 25.

THE present state of uneasiness which prevails on the market has paralysed all the efforts which are constantly made to shake the slumpy tendency of a share market which has reached now the acutest stage of weakness on record.

The most ridiculous rumours are spread to justify this state of things, and any step taken by companies is unfavourably interpreted.

The suggested increase of capital of the East Rand Proprietary Mines, by an addition of 100,000 shares, such shares to be offered *pro rata* to the shareholders at £4 10s. per share, the price being guaranteed at such a price, has been received with all but favourable feeling here.

The suspension of prospecting work on two of the subsidiary holdings of that company—viz., the Blue Sky and the Cinderella, and the temporary need of water experienced on the New Comet, have been so magnified lately that the East Rand Proprietary have been compelled to send an official denial to the papers.

Except on the Cinderella and Blue Sky Companies, where the results have been, since prospecting was started, of a very complicated nature and of poor returns, the other holdings of the East Rand Proprietary Company (Limited), are of a decidedly good class, and the issue of shares, as contemplated, will assist the company to continue the development work of the best part of their large holdings with their utmost energy; it would be wrong of the public to misinterpret and misunderstand any step in the right way.

Another matter of apprehension, and which has formed the subject of talk in and around the financial circles up here, has been the deep levels question; everybody has got something to say, and the point is whether deep levels will pay or not.

The returns of the Goldenhuis Deep, which, as you know, were not up to the mark, and far below the expectations, had a very detrimental effect upon the market, and now that the Gold Fields have reduced to a large extent their holdings in Gold Fields Deep, as it appears in their report, everybody admits that some very good reason must be assigned for such a course being taken, first of all, a certain amount of suspicion towards any deep level property.

On the other hand, the Roodpoort Deep, which some days ago struck the reef on their property with brilliant results, affords another proof of the regular condition of the deep fiducial in deep level enterprise.

When some far east property, such as the Glen Deep and Knight's Deep, on which developing work is now going on, working possibilities and paying qualities of their reefs, a great step towards the deep level knowledge will be made, and the greatest problem of the Rand's life will approach solution.

The first annual meeting of the Phoenix Gold Mines took place on the 21st inst. The company started operations last year with very good prospects, and up to the third level the reef proved very good indeed up to 280 feet. By further sinking it was found that matters had entirely changed, and the prospects became irregular and the formation broken.

Very promising, so far as the property is concerned, are the facts disclosed at the first annual meeting of Glynn's Lydenburg (Limited).

The average of 434 samples had returned a value of 38 dwts. It was expected that the recovery would never fall below the 20 dwts. According to the trial made on the ores, these could be easily treated in mill and cyaniding.

The want of transport prevented their getting the battery material, a good portion of which was lying at the station. Therefore, they were compelled to do very little work until transport should be available.

Other reports to hand about the Lydenburg district fully confirm the opinion that the district will prove a strong competitor to the Rand. A lot of farms have been lately taken up privately, and it is expected, as soon as the better tone of the London market will afford the opportunity, that several properties will be floated in London, with a strong support from Paris, owing to the joint interests, both English and French, of several of these new ventures.

It is reported from Barberton that about 70 claims in the Zwartkopje district have been taken up by Barnato at a price of £150 per claim. Other dealings have been expected, but they are kept quiet for some reasons easily conceived.

However, prospects are now exceedingly dull, and hundreds of claims on good farms, which have been kept for a long time for the sake and with the hope of finding a good market, are now left to lapse.

Claim transactions are very difficult, and speculation is very careful just at present. Too many flotations took place in the dark last year, especially around Heidelberg; too many doubtful enterprises, amongst some good ones, have overstocked the market to such an extent that for a time to come it will be hard for claim holders to find buyers even at very low figures.

ROYAL CORNWALL GEOLOGICAL SOCIETY.

The annual meeting of this Institution was held in the Museum, Public-buildings, Penzance, on Tuesday afternoon.

Mr. THOMAS ROXBURGH POLWHELE, M.A., F.G.S., President, occupied the chair, and there were also present Lord St. Leon; Major Ross; Major Parkyn; Revs. J. Tonkin, W. M. D. La Touche; Messrs. T. R. Bolitho, T. W. Field, J. D. Eysa, Howard Fox, R. Etheridge, F. Holman, J. S. Dodge, A. K. Barnett, A. H. Teague, and J. R. Cornish (secretary).

The President, in his annual address, paid a high tribute to the value of the late secretary, Mr. George B. Millett. That he appreciated the museum was shown by his having left his collection of fossils to be placed in it. The museum is in good order, and the samples properly labelled; and the documents of the society are also in order. He wanted to see the society made more useful. Had the Mining school been at Penzance instead of at Camborne, an amalgamation might be effected to the advantage of both. But he was afraid they were too far apart for that to be possible. However, he thought affiliation in some way might be brought about, and the pupils of Cramborne pay 10s. a year, or £1 for the two years' course, towards getting a good geological lecturer to give them a course of lectures with the specimens in the museum to demonstrate them. He was in communication with Mr. Beringer, principal of the Camborne school, and he hoped something might come of it. The medal given under the late Mr. William Bolitho's will, to be handed to the member of the Society whose attainments most deserve it, had been awarded by the Council to Professor Robert Etheridge—(applause)—a man who had given his whole life to natural science. Continuing the subject of his last address, the president traced the formation of this earth from the time it was a collection of aerolites, enveloped in steam, revolving round the sun, also on its own axis, gradually cooling till the steam turned to rain, and the sun and moon appeared. In consequence of its revolution on its own axis longitudinal fissures took place, through which igneous matter was forced up, forming mountains, which in their turn formed oceans and retarded the ocean-currents. These oceans were filled up with debris, at the same time altering the density of the earth, consequently the earth revolves on a new axis, and a debacle takes place, changing the whole face of the globe. This process is repeated at vast intervals, forming the different periods of stratification. Added to this, there are minor local disturbances, which complicate matters. This then is the problem the geologist has to unravel.

At the close of his address, the president presented the first Bolitho gold medal to Professor Etheridge.

Professor ETHERIDGE, in reply, said he was deeply sensible of the honour which the Society had conferred upon him by awarding him the first Bolitho medal. It was an unexpected honour, and it was an additional measure to revive it from the president's hands. He need hardly say how highly he appreciated this distinction. He should treasure its possession still more, being the first recipient of the medal awarded by the vote of the Council, and the munificence of him who left it.

TRANSAAL LANDS COMPANY (LIMITED).

The ordinary general meeting of the shareholders in the Transvaal Lands Company (Limited) was held on Monday, at the Commercial Hotel, Sir F. Young presiding.—The Chairman stated that the Transvaal Exploring Company had made satisfactory progress in prospecting this company's farms during the past year. They had received 7000 fully-paid shares in the Lydenburg Mines, the company in payment for the right to prospect, with the option of purchasing the company's farms in the Lydenburg district. These shares had not been brought into the profit and loss account for the past year, as the directors had not considered it wise to take credit for the money until the shares were realised. The proceeds arising from their sale would greatly strengthen the company's position. As regarded their agricultural operations, they had learnt with great satisfaction that the company's cattle, numbering over 1000 head, had up to the date of the latest report escaped the rinderpest, and were in a healthy condition. They had sold the agricultural rights of the farm Baatskraal for £2000, but they had reserved the mineral rights, and they could repurchase the farm at any time within five years for £4000. He concluded by moving the adoption of the report.—The motion was seconded and agreed to.

THE ECONOMIES OF ELECTRIC POWER PLANT.

By Captain C. C. LONGBRIDGE, M.F.I.M.E., M.I.M.E., &c.

SINCE the publication of "Electric Motive Power" (October 31) several instances of power economy effected by the use of electricity have been communicated to the writer. As facts of interest some of these are given below, attention being subsequently drawn to the mechanical principles on which the economy is based.

Messrs. Siemens Brothers (Limited) calculate that, taking into account the long lengths of shafting that had to be driven in the old steam plant of 1446 indicated horse-power at their Woolwich Works, not more than 60 per cent., or 867 brake horse-power was really utilised. Whereas on adopting electric transmission of power, the efficiency rose to 77.7-82.2 per cent., and there are now 1,407 brake horse-power available at the motors, and 240 horse-power devoted to electric lighting purposes, the generating plant having a reserve power for many more motors. The capital outlay per brake horse-power was 30 per cent. higher in the case of the old steam plant, than for the present electric central station plant. This firm, some little time ago, made an offer to replace various colliery engines, exerting altogether about 800 brake horse-power by an electric plant, by which the colliery owner would save sufficient money, counting 15 per cent. of his outlay for interest and depreciation, to repay the outlay in 10 years. In other words the cost of working the plant for one year would be less than the present cost by an amount equal to 25 per cent. of the outlay.

Messrs. Easton, Anderson, and Goolden (Limited) furnish a calculation showing the annual saving effected by their electric haulage plant at Barnock Colliery. The estimated annual cost of working with horses was:—

Depreciation and renewal of 40 horses, 15 per cent. of £12,000 £ 180
Keep of 40 horses at £30 per annum 1200
Wages of 40 men at 5s. 6d. per day for 250 days .. 2750

Total £4130

The annual cost of working and maintaining the electric installation is:—

One electrical engineer at 10s. per day for 250 days .. £ 125
12 men at 6s. per day for 250 days 900
Coal, oil, stores, &c. 500
Upkeep and depreciation on buildings, machinery, &c. 465

Total £1990

Deducting the cost of working and upkeep of the electric haulage plant from the estimate of cost of doing similar work by horses, the result shows the substantial saving of £2140 per annum effected by the electric installation.

Messrs. J. C. Howell state:—"We recently replaced two steam pumps underground by two three-throw pumps driven by electric motors supplied with current from a steam engine and dynamo on the surface. The coal consumption was at once reduced from 67 tons per week to 34, although some additional 12 horse power was absorbed for electrically driving an underground fan.

The consulting engineer at a colliery in South Wales, referring to an installation supplied by Messrs. J. C. Howell, writes:—

"It is difficult to compare the cost of electricity as against steam, because the electric plant is doing much more work than the steam ever did. Before the electric plant was started, we had a pair of 18 inch hauling engines adjoining the boilers, and one steam pump 600 yards away at a gradient of 1 in 6 doing about 220 gallons per minute and no other plant. We were then raising 150 tons of coal per day, and the consumption was 60 tons per week of through coal. Recently we have been working 250 tons per day from an increased distance with the same hauling engine and pumping 250 gallons per minute from 600 yards distance on a gradient of 1 in 6. Besides this we have had a pump raising 100 gallons per minute through 100 feet vertical, and another raising about 30 gallons per minute through 50 feet vertical. Also the electric fan has taken about 5 horse power.

The coal consumption under these conditions was 40 tons per week, and nearly all small, only a few lumps being used when raising fire after cleaning.

"Taking through coal at 5s. and small at 3s. I judge that we were using the hauling engine and 20 horse power in the water for £15 per week at first, and with the electric plant we have been using the hauling engine and 35 horse power in water and fan for £6 per week.

"It is impossible to get at the consumption due to the hauling engine, but I should guess it at $\frac{1}{2}$ of the whole, or between $\frac{1}{4}$ and $\frac{1}{2}$, say 12 tons per week. If you average the distance of electric plant from boilers at 600 yards, which is an understatement, you can take it that our work cost us three times as much coal by weight, or five times as much by value when done by steam as it does when done by electricity."

The following table of electric motor tests, taken at the works of Messrs. Dorman, Long, and Co., Middlesbrough, by Messrs. Solby-Bigge and H. Panten, is instructive:—

Description of Machine.	Driven by engine capable of indicating.	Replaced by electric motor capable of indicating.	Voltage at generator.	Voltage at motor.	Current taken by motor.	E.H.P. absorbed including work.
Three cold saws.	h.p.	h.p.			Amp's	Pr. c/nt.
Two ending machines.	27	10½	120	115	70	10.7
One saw-sharpening do.						
Troughing straightening machine	14	3½	120	118	12	1.9
Double-ended punch, punching four holes one side and one other	14	5	120	115	25	3.7
Straightening machine, all sections	14	3½	120	115	15	2.3
Straightening machine, biggest sections	16	3½	120	115	35	5.4
Old saw, 26 in. dia.	9	3½	120	110	15-27	2.2 & 3.9

The saving in coal effected on above machine tools amounted to 30 tons per week, after the adoption of the electric system.

The above instances point clearly to the conclusion that electricity is specially economical where power is wanted at a number of places scattered over an extended area, as in the case of large and divided works, shipyards, in and about mines and collieries, &c.

The reason is sufficiently obvious. In such cases, power can be transmitted only by long shafting and belting, or by steam pipes. Both of these methods are extremely wasteful.

Careful tests have shown that in supplying separate engines with steam, the amount of leakage and condensation, which takes place, even in comparatively short lengths of piping, reduces the efficiency, in some instances, to as low a figure as 25 per cent. Thus steam transmission in long lengths of pipe, apart from other drawbacks, may easily result in ruinous losses.

Taking, in the case of scattered motors driven by electric power, the average steam consumption as 23 to 30 lbs. per indicated horse power, that, in the case of engine works, shipyards, or mines, where power is conveyed partly by steam pipes, may be placed at 40 to 50 lbs. per indicated horse power, in no instance rising from 80 to 100 lbs. The loss in transmission by shafting in compact works, where the line is straight and of no great length, may be as low as 16 to 18 per cent. But these favourable conditions are not found in the cases here considered, where the loss is more likely to range from 20 to 40 per cent. of the gross power. In a contribution (Electric Power in Southern Mills) to the "New York Engineering Magazine" last year, Mr. A. F. McKissick gave a table showing that in ten distinct factories the power required to drive the shafting varied from 15 per cent. to 80 per cent., the average being 38.6 per cent. of the total power. The seriousness of this loss is increased by the fact that it is a constant quantity whether full or partial work is being done. Thus the less the load, the greater the proportional loss. It is in a great measure owing to this fact that in mines, collieries, shipyards, &c., where the machinery works intermittently, and is liable to great fluctuations of load, the economy of working by electric power is so marked, the conveyance of the power and the lead loss being only in strict proportion to the demand. Mr. Solby-Bigge (in Electrical Power in the "Iron and Steel Industries, Eng. Mag.," 1895, p. 405.) has illustrated this fact by a table calculated by Mr. Felix Melotte showing, in a given case, but under a varying load, the efficiencies of electrical and of mechanical transmission of power:—

ELECTRICAL TRANSMISSION.						
Load on the engine	1000	750	500	330	250	200
Constant frictional loss	50	50	50	50	50	50
Variable frictional loss	50	27	11	4.5	2.2	1.2
Total loss in dynamo	100	77	61	54.5	52.2	51.2
Available power in dynamo	900	673	439	275.5	197.8	148.8
Efficiency, per cent.	90	89.7	87.8	83.5	79.1	74.4
Loss in conductors	18	10	4	1.7	0.8	0.5
Energy available at motor terminals	882	663	435	273.8	197	148.3
Of which, 6 per cent. frictional loss	53	53	53	53	53	53
4 per cent. variable loss	35	20	8.5	3.4	1.7	1.1
Total loss in motor	88	73	61.5	56.4	54.7	54
Final efficiency, per cent.	79.4	78.7	74.7	66.2	57	47.2

MECHANICAL TRANSMISSION.						
Load on engine	1000	750	500	333	250	200
Loss in shafting, &c.	206	216	206	206	206	206
Useful effect	794	544	294	127	44	0
Final efficiency, per cent.	79.4	72.5	58.8	38.1	17.6	0

From this table it will be seen that the two systems of transmission, which at first appear to be equivalent, become very different as the load diminishes. Thus when only one-fifth of the power is developed, electrical transmission still yields 47.2 per cent., whilst mechanical transmission has had all its power absorbed in the constant frictional loss of 206 horse-power. The question: How far electrical distribution should displace shafting can only be answered by an investigation into each special case. The general considerations governing the problem are: That the cost of shafting per unit of power transmitted and the transmission loss are least when the machinery is grouped in close proximity to the source of power: that the loss by friction of shafting and belting is constant whether all the machinery is in use or not: that in electric distribution the cost of conductors is comparatively small, and widely-scattered plant may be fed with little additional cost; that stopping a machine stops its proportion of the flow of current from the generator and its proportion of the loss in transmission; that an electric motor consumes current nearly in proportion to the load, and may, therefore, be used for light loads without excessive waste; and that a machine fitted with its own motor may be placed most conveniently for its work, without regard to the position of the lines of shafting. In conclusion, it may not be amiss to say that in such short transmissions as are here considered the loss in the leads is about 5 per cent. With regard to the efficiency of the various sizes of motors, very small ones under 1 horse power give from 50 to 60 per cent., 2 horse power motors from 79 to 84 per cent., and the larger ones up to 94 per cent.

TIN TICKETING.

THE fortnightly ticketing for tin ores was held at Tabb's Hotel, Redruth, on Tuesday. Results:—

VALUES OF ORES SOLD BY EACH MINE.							
Mines	Tons	cts.	Per ton.	£	s.	d.	
Dolcoath No. 1	14	0	36 17 6	516	5	0	
do No. 1a	14	0	37 2 6	519	15	0	
do No. 1b	12	0	37 5 0	447	0	0	
Wheal Grenville a	14	0	38 10 0	539	0	0	
do b	13	0	38 12 6	502	2	0	
Basset Mines (Ltd.) No. 1	11	0	39 7 6	433	2	0	
do No. 1a	11	0	39 5 0	431	15	0	
do No. 2	4	0	30 12 6	122	10	0	
Carn Brea and Tincroft 1	10	0	36 7 6	353	15	0	
Mines (Limited) 1a	9	0	35 15 0	321	15	0	
do No. 2	1	0	29 2 6	29	2	6	
do No. 3	1	0	8 10 0	8	10	0	
Levant	16	0	40 2 6	642	0	0	
West Kitty	14	0	39 5 0	549	10	0	
East Pool No. 1	12	0	27 0 0	324	0	0	
do No. 2	1	0	10 7 6	10	7	6	
Phoenix United No. 1	8	0	37 0 0	296	0	0	
do No. 2	1	0	28 12 6	28	12	6	
Wheal Kitty	6	0	39 2 6	234	15	0	
172 0				£6309 17 6			
AVERAGE PRICE PER TON, £36 13s. 8d.							
AVERAGE PRICES PER TON.							
October 6	£34	9	7	November 3	£36	9	11
October 20	35	17	6	November 17	36	13	8

VALUE OF ORES PURCHASED BY EACH FIRM.			
Firms	Tons.	£	s. d.
Carvedras	25	5-6	948 6 3
Chyandour	49	5-6	1882 17 6
Williams	27	5-6	1020 0 0
Redruth	12½		476 8 9
Penpoll	34		1159 0 0
Cornish	22		823 5 0
	172		£6309 17 6

THE DAY DAWN BLOCK AND WYNDHAM GOLD MINING COMPANY (LIMITED) have sold, through Messrs. Johnson, Matthey, and Company (Limited), bullion ex. ss. Sumas and India for £16,110 19s.

MEETINGS OF MINING COMPANIES.

HIT OR MISS PROPRIETARY GOLD MINES, LIMITED.

An extraordinary general meeting of the Hit or Miss Proprietary Gold Mines (Limited) was held on Monday, at Winchester House, for the purpose of receiving the experts' reports on the property referred to in the circular sent to the shareholders on October 24, and also the directors' report on the general position of the company.—Mr. HENRY W. LOWE (the Chairman of the company) presided.

The SECRETARY (Mr. Patrick C. Anderson) read the notice convening the meeting.

The CHAIRMAN said: We have convened this meeting in anticipation of our annual general meeting, in order that we may give you at this earlier date the fullest information we have respecting your property. In view of recent events this course commended itself to the directors as being one that was more necessary than usual, because there were certain rumours vaguely set afloat which required to be set at rest by some definite and authoritative statement, and, as you know so well, when suspicion is once created it is very difficult to set it at rest. No doubt there was some question created in the mind of all of us by the unfortunate telegram we received from our consulting engineer, (Hear, hear.) That matter was set at rest a few days later by the report that everything was in order, the difficulties had been overcome, and that everything was going on smoothly.

The chief difficulty we have found has been that of water, and that is no novelty in the Coolgardie field. It is one that presents itself to every mining company there, but, as far as I have been able to ascertain, in every instance it has been overcome; therefore, there is no reason why that should be an insurmountable obstacle to our success. The latest reports received go to prove that everything is going on properly, and in a letter written before that disagreeable telegram—viz., September 30, the manager says: "The ore from Christians is exceedingly regular in its value, being about 3½ ounces, and is free from slimes, and consequently we propose to continue crushing this ore until we have settling pits room to treat the 725 ore. The mill itself works very smoothly, and appears to us to be simply a matter of giving careful attention to the work to be in a short time making a large output. There are many months' crushing already in sight in the mines." However, we thought it would not do to rely entirely on the statements of anyone connected with the property, and that it would be advisable that we should call in some reliable experts to visit the mine, report upon their actual state, and to convey to us also any suggestions they might be able to make as to any better treatment of the ore we have crushed. These reports have been received within the last few hours I might almost say. The first one comes from Professor Nicholas, whom we considered to be the most fearless, the most independent, and, I might say, the most pessimistic expert on the fields. A fuller detailed report will be coming from him later on, but he tells us in regard to Lease 313, which is our battery site:—"Prospects are not encouraging, excepting above the 100 feet level. Prospecting adits are being driven for further developments." We have never attached any great importance to that lease, so that is what we expected to find. He continues:—"Lease 725, Water Block: I strongly recommend sinking the main shaft on the underlay to prospect the reef and get more water. The ore is hardly payable at the present time, owing to the water." That corroborates the statement which our engineer reported to us, that the tailings contain such a large amount of gold—equal to 2½ ounces—that it would be waste until a better supply of water is brought into use to go on crushing with the water in its then state. "Lease 760, Christian. I consider this of great importance. Reserve stops will work out shortly, so recommend sinking main shaft to open new reserves. A shoot of gold at the 150 feet level equal to 20 dwts. per ton. This property offers the best prospects for successful mining. The method of treating the ore has improved in value. I have suggested an alteration in the amalgamation, and a fair trial of it will be given." We consider that, coming from Professor Nicholas, a most encouraging report. He does not tell us anything bad in the whole of it, and if there had been anything bad it would have been found there beyond doubt. Then the next expert called in was Mr. Fearby, who is a thoroughly practical miner. He reports briefly:—"Have examined the mine. The development and workings have been carried on satisfactorily. The new machinery is working well. Full details by first mail. Assay of tailings will follow later. Cannot suggest improvements of any kind to treat the ore." That we consider an assurance that our people on the spot are doing their very best in our interests. You are aware that reports have been circulated as to what is called the inevitable reconstruction of this company, but I am happy to tell you that in our present position no fear need be exercising your minds in that respect. (Applause.) To prove that as far as I can, I will briefly recapitulate our present position. With our own working capital we have added 48 acres, all mineral ground, to our property; we have opened up and put in working order two mines of large extent, including some 1000 feet of shaft sinking and 2300 feet of drives and crosscuts. If you will figure that out yourselves you will find that represents a very large amount of work. In addition we have erected 20 stamp battery, and fitted both mines with all the necessary appliances—winding gear, pumping, connections of water, houses for men and machinery, saw mills—in fact, every single appliance that could be required for putting the mines in working order. The whole of the work has been paid for, and we owe nothing to anybody in cash—(applause)—and we have in addition a substantial balance at our bankers, which, as far as we can tell, is an amount in excess of what we shall require before our mine is in thorough working order, and will easily cover expenses. One of our properties, as you have probably already heard, is quite ready for floating, and being worked on its own account—I mean the Christians property. That is now in a position to earn its own dividends and for working its own career successfully, and we intend to float it at as early an opportunity as possible. In doing so the directors have come to a decision to offer the shares *pro rata* to the shareholders of this company in the first instance, because we consider large future benefit will accrue from the mine, and that our own shareholders should have the right to put their money into it if they wish. (Applause.) I dare say it will have occurred to you that the policy of the board from the commencement has been to keep the shareholders fully informed of the progress of the mine and everything connected with it. The reports have been issued without any regard whatever as to whether they might affect the price of the shares one way or the other, and I may say that we look with very much satisfaction upon the result of that policy. We have on the register some 1700 shareholders, and in the recent severe panic in the price of our shares our shareholders stood by us almost to a man, and hardly one parted with his shares. (Applause.) I was looking through the transfers the other day, and I find that the orders for the present moment come in from Stock Exchange holders and jobbers, who are selling them for clients, to be cut up and sold in small parcels. Our own shareholders stood by us, and are still the owners of the shares. We feel that that is a very great compliment to us, because it shows that our shareholders have confidence in the integrity and straightforwardness of the management and I can only hope they will never have reasons to feel anything to the contrary. (Applause.) Another matter that I have to announce to you—and I think it will give as much satisfaction to you as it has given to us—is that our friend and colleague, Mr. Oxley, has decided to proceed at once to Australia to superintend the management there and look after things thoroughly at the mines. (Applause.) His practical experience, as well as his large local knowledge of mining, will be of very great value to us. For my own part I have often wished that his engagements would have

permitted him to proceed there earlier, but we know that sometimes one is not able to do that which one wishes. However, he has now decided to proceed, and in a few days will take his departure, so that in a short time we shall have one of our own colleagues on the ground, and if anything is required to be put right he will be the man to do it. I will ask Mr. Oxley to make a few remarks on the present position and future of our affairs. (Applause.)

Mr. J. O. OXLEY said a rumour had been circulated, and had gained credence to a large extent in the City, that the recent raid on the shares was due to speculative selling, in which he had indulged to a large extent. Now, this was sheer nonsense; he contradicted it flatly. (Applause.) He had not sold and had not influenced the selling of any shares on the market during the last two months. He might tell them as a further proof of his belief in the property that some short time back an offer was made to him by the representative of one of the largest financial institutions in the country to purchase from him 20,000 shares at £2 a share. That he refused for this reason, that at that time he believed the shares were worth £5 apiece. He believed that at the present moment, and was confident that within the next few months they would see the market value of the shares at least £5. (Applause.) There had been rumours circulated in the City that there were dissensions on the board. He wished to contradict such rumours. The directors were working, and had worked since the flotation of the company, most harmoniously and with one object, that object being to further the interests of the company. (Applause.) As the Chairman had told them, he was proceeding shortly to Australia, where he should also examine the property thoroughly, and shareholders might take it from him that he would give them a thoroughly straightforward, frank, and honest opinion of their property. (Applause.)

Mr. GEORGE RANSON, in complimentary terms, proposed a vote of thanks to the Chairman and of confidence in the directors of the company, which Mr. LEIGHTON seconded.

Mr. DEVER SOMERS supported the motion, and expressed full confidence in the directors.

The motion was unanimously carried.

The CHAIRMAN, after acknowledging the vote, said he could only say that the strong desire of the board from the commencement had been to lift the company above the sphere of Stock Exchange speculation and place it on the basis of a sound dividend-earning company. He had felt it his duty after certain reports were circulated to make a close enquiry as to whether there was any possibility of any member of the board having indulged in market manipulations of shares, and he was happy to assure the meeting that any such allegation was utterly and entirely without foundation. (Applause.)

The proceedings then terminated.

BALAGHAT MYSORE MINES, LIMITED.

An extraordinary general meeting of the shareholders in the Balaghat Mysore Mines (Limited) was held at the Cannon-street Hotel on Tuesday, Lord RIBBLESDALE presiding, for the purpose of considering resolutions to reconstruct the company.

The SECRETARY (Mr. I. Crocker) read the notice convening the meeting.

The CHAIRMAN said the object of the meeting was to reconstruct the company. In June last he foreshadowed the reconstruction of the company in the new year of 1897, but it had come a little sooner than he expected. It was proposed that a new company should be formed to take up the undertakings of the old company, and that every shareholder should be asked to put his hands into his pockets to the extent of 5s. for every £1 in the old company. This would provide £40,000 odd, which the directors considered ample to thoroughly develop the property. He did not suggest that £40,000 would do all they might require to do at Balaghat some day, but it would be ample to prove whether it was worth while going on or not. The capital would not be underwritten; therefore, it would be necessary for the shareholders to make an effort to provide the necessary capital, otherwise their rights would be extinguished by the debenture holders taking the property. The whole position had been explained to the debenture holders, and they had decided to accept 10 per cent. non-cumulative preference shares in exchange for their debentures. He was pleased with the unanimous response of the debenture holders, and he hoped they would get a similar response from the shareholders. The action of the debenture holders placed the new company in a very much better position than the old one was, because during the time occupied in unwatering the mine, &c., they would be relieved of the heavy encumbrance of debenture interest. In the second resolution which would be submitted, the shareholders were told that the company was to take over all the assets of the old company. There were not very many assets to be taken over, except machinery, &c., but there were some liabilities, amounting to £3000, which the new company, if formed, would have to clear off. The liabilities would have been much larger but for the fact that the directors had waived their fees. They were entitled under the Articles of Association to £700 a year. In 1894 they received £300, but they had taken nothing since. Therefore, the directors had given their services for two years and a half for nothing, thereby saving the company £1800. The managers of the company, who had devoted a great deal of time and attention to the mine, had only taken for the last two years their bare office expenses, and they had waived £600 to which they were fully entitled. It had been suggested that the liability on the shares should be limited to 3s. instead of 5s., but if that were done, it only meant that in a short time the directors would have to come to the shareholders and ask for 2s. more; therefore, neither the board nor the manager recommended that course. In June, 1895, he stated that there were 50,000 tons of tailings on the property, and that they had decided to use the remaining money left in their possession in erecting cyanide works. Those works had done very well, although the actual results were not quite up to the estimates given. They expected to receive something over 3 dwts. but they had not quite come up to that; on the other hand, the expenses of treatment per ton had been rather less. The board, however, were disappointed, because the tailings had fallen short by 16,000 tons of the estimate he formerly gave. The superintendent accounted for this shortage by a large waste, owing to wind and weather. In conclusion, the Chairman stated that the board held proxies to the extent of one-third of the capital of the company, and expressed the hope that every shareholder would make an effort to enable the company to further develop the property, and, if possible, make it a success. He then moved: "That it is desirable to reconstruct the company, and accordingly that the company be wound up voluntarily, and that Mr. Isaac Crocker, of 6, Queen-street-place, in the City of London, be and he is hereby appointed liquidator for the purposes of such winding up, at an agreed remuneration of £105."

Sir FREDERICK HAINES seconded the resolution.

Mr. JOHN TAYLOR said the reasons why the company should now be reconstructed, and additional capital provided, appeared to him to be sufficiently clear and convincing. In the old mine operations were discontinued in the month of February, 1895, owing to the impossibility of coping satisfactorily with the water with the existing machinery on the mine, except at a ruinous cost. Although the working of the mine was discontinued, it was making at that time a return of from 700 ounces to 850 ounces of gold per month, and there was no reason whatever, as far as he could judge, why returns of a similar amount should not be made again from the old mine, whenever the water was taken out and the levels put in order. Beyond this they had the very great improvement which had taken place quite recently in the neighbouring Coromandel Mine. The workings in that mine had been carried right up to the boundary of the Balaghat property, and in several of the levels a good pay-shoot had been proved right up to the boundary. Following the northerly dip, which they now knew was the habit of all the pay shoots in the Coromandel field, it was quite clear that the northern extension of this Coromandel pay shoot must be found in the Balaghat

Company's mine as they went south in the deeper levels. In the 440, 500, and 600 feet levels of the Coromandel Mine this pay shoot had been laid open, and proved to be about 300 feet in length. For a proof of the value of this pay shoot, they had the very excellent returns which had been made for some months by that company. In view of that, and in order to explore their mine towards their southern boundary, two levels had been driven south from Ogle's shaft at 270 and 410 feet. The 270 feet level had reached the southern boundary of the Balaghat property. One pay shoot was passed through in that level, the assays showing a value of from 1½ to 4 ounces per ton, but it was not long. The shoot was only a little over 40 feet in length. The level below 410 feet had also been driven south a considerable distance, and a short pay shoot had been passed through about 50 feet long, yielding from 12 dwts. up to nearly 1½ ounce to the ton. It was quite apparent, from the work done there, and the work being carried on at Coromandel, that it was to deeper levels than this they must look for the development of the pay shoot in the Balaghat property. A glance at the section of the two mines clearly showed that, and they had now the fullest reasons for anticipating that at 800 feet good ore ground would be met with as they drove south towards Coromandel Mine. Hence, they would see the importance of unwatering the old mine, and driving at this increased depth. The work done at the 270 feet and 410 feet levels proved two important points—namely, the continuity of the reef in their property, and the fact that it was auriferous. The recent success of the Coromandel Mine they might regard as very encouraging, and, therefore, he considered the proposed reworking of the Balaghat Mine and its development in depth in a southerly direction was a fair and legitimate mining enterprise, carrying with it a good prospect of being successful. He, therefore, trusted that the shareholders would adopt the course now suggested, and proceed with the reconstruction scheme on the lines proposed. (Applause.)

In reply to a SHAREHOLDER, Mr. JOHN TAYLOR said that he believed it would take between 9 and 12 months to unwater the mine.

A SHAREHOLDER thought the payment in respect of the new company should be 6s. on application, and 6s. on allotment, instead of 1s., as proposed. (Hear, hear.)

The CHAIRMAN stated that the directors had not the slightest objection to accepting that proposal.

The resolution was then put and carried.

The CHAIRMAN also moved the following resolutions, which were carried:—"That the said liquidator be and he is hereby authorised to consent to the registration of a new company, to be named, The Balaghat Mysore Mines (Limited), with a Memorandum and Articles of Association which have already been prepared with the privity and approval of the directors of this company. That the draft agreement submitted to this meeting, and expressed to be made between this company and its liquidator, of the one part, and the new company of the other part, be and the same is hereby approved, and that the said liquidator be and he is hereby authorised to enter into an agreement with such new company when incorporated in the terms of the said draft, and to carry the same into effect, with such (if any) modifications in the details thereof as he thinks expedient, and for that purpose to exercise all or any of the powers capable of being conferred on him under sections 159, 160, and 161 of the Companies Act, 1862."

Major-General TENNANT seconded the resolutions, and they were agreed to.

A vote of thanks to the Chairman concluded the meeting.

KOMATA REEFS GOLD MINING COMPANY, LIMITED.

The annual general meeting of the shareholders in the Komata Reefs Gold Mining Company (Limited) was held at Winchester House, E.C., on Wednesday, Mr. HENRY WILSON (Chairman of the company) presiding.

The SECRETARY (Mr. W. J. Lavington) read the notice convening the meeting.

The CHAIRMAN said: The first resolution it is my duty to propose to you is—"That the report as circulated, and the statement of accounts as duly audited, be received and adopted." You will remember that we had the pleasure of meeting you on February 3 last. That meeting was rendered necessary in order that we might have an opportunity of complying with the amendment of the mining law as it stood in 1894 in the colony. It imposed upon us the necessity of opening a registry there, and of keeping an officer in the capacity of registrar, the ostensible object of the alteration of the law being to grant facilities to local shareholders to deal with their shares through the medium of a local register, or if they were so desirous, of having their names transferred to the London register. That, I believe, was the object that the Act had in view, but when we looked into the matter, I and many shareholders considered that it was utterly useless. It has not answered its purpose, for up to the time of these accounts being drawn out only from 5 to 25 shareholders had transferred their names. You observe that this report and statement of accounts only take you up to March 31 of the current year. Some explanation is due to you for the delay that has occurred in presenting them. In the early summer we received with considerable regret unfavourable reports regarding the health of our worthy manager, Captain Argall. With his usual tenacity, he remained at work, in order that he might have a road sufficiently good to bring the entire plant and machinery up to the mines. It was during the exposure inseparable from such a position that he absolutely broke down, and was ordered pre-emptorily by his medical men to give up all work, and, if possible, take a long sea voyage. Out of mischief comes good. If he had not broken down, we should not have had the pleasure of seeing him to-day. You probably will remember that on February 3 I went fully into the position of the property, and explained to you everything you could possibly desire information about. Since then many things have happened, however. Your property is situated in the Haarakai gold district, and in the Upper Thames. It consists of 79 acres, with a machine site of 5 acres. It is immediately surrounded by some of the wealthiest mines of the day, leaving our own Haarakai out of the question, which I take permission to say is the richest mine as regards returns in existence. The Komata Claim, the northern one, consists of 30 acres, for which you pay some £15 per annum. The A1 Claim is 19 acres, for which you only pay £9 10s. per annum; the southern block, Queen's Birthday, is 15 acres, for which you pay £15 per annum. Our water rights at Komata Creek are of immense importance, and the rental we have to pay for the property we possess is only £41 10s., while the capital of the company is £50,000, so that if we take all those matters into consideration, we certainly ought before very long to be in a position to earn you a tolerably fair dividend on so small a capital. To review the position up to this period would be a very congenial task to me, but inasmuch as we have got Captain Argall present, I venture to think it will be much more satisfactory to you to have his views as regards the property than for me to narrate second-hand information got through the various communications from the local representatives. I, therefore, formally move the resolution.

Mr. J. A. TRAVERS seconded the motion, and it was carried.

The retiring director, Mr. Charles Bingham, and the auditors, Messrs. Trewar and Heisch, were then reappointed.

Captain W. H. ARGALL said the property was situated in a district very hilly, full of dense bush, and where it rained almost continuously. They had to contend against great difficulties at the outset, but those difficulties were now being overcome. Only on the previous day the directors received a cablegram stating that the road was now in working order, and that the materials for the mill were being conveyed to the mine. Buildings had also to be erected before the actual mining operations could be commenced. When the necessary preparations were completed work was commenced on the Komata Reef proper by driving a main crosscut. Only two reefs were supposed to exist on the property when it was taken over—namely, the Komata Reef and Black reef, and the object of driving

the main crosscut was to prove the ground between the two reefs. But, before proceeding further, he would give a short description of the work which was done up to the time of his leaving for England. About 80 feet from the mouth they cut a branch leading off from distance, but, owing to the shallow nature of the ground, they discontinued operations there. After driving a considerable distance in places the reef widened out to a considerable extent, although he did not suppose it would average more than 4 feet. After driving the tunnel they found that in places it showed very good ore, but, taking it all through, it was low grade. Near the present face they started a crosscut to cut what was termed Argall's reef. After driving about 80 feet they struck it very rich, and then continued driving south to meet the reef which was cut though the main crosscut going north. The reef formation struck was 16 feet wide, with 5 feet of good payable ore on each of the hanging and footwall sides, making 10 feet of good payable rock throughout. (Applause.) In driving the main crosscut he fully expected that they would strike somebody. After driving in the main crosscut Argall's reef was cut 18 feet wide—a strong body of stone between two walls, and persistent in its nature. (Applause.) This lode had so far proved to be the richest one in the property. Driving was continued in the main crosscut, and then another reef was struck, which was called the wile between walls, but was not so rich as Argall's reef. He had now proved the latter reef for over 300 feet, and he believed it would go as nearly as possible to £5 per ton for the whole distance. (Applause.) They had at least 700 feet of backs to work on, which would keep the property being worked at present; scarcely anything had been done at the southern end. Drives were now being put in north and south from the present main crosscut to open up the bodies of ore for practical work. The three reefs had been traced the entire length of the property on the surface. As a rule, the prospects on the surface of Argall's reef were not good, but it had been proved that the ore became richer in depth. (Applause.) The water race, which was about 3 miles long, had been completed, and the tramways were being put in order. The Chairman had stated that the machine site was only 5 acres in extent, but he himself believed it was 10½ acres. The battery site was in a position that would give a fall of about 180 feet, and, according to measurements taken, they had 85 horse power, which would be available for at least nine months in the year. It was his intention to start for New Zealand shortly, and to push on the works as rapidly as possible. The road which had been made would be of great benefit to the district generally, and he would endeavour to get the other companies to share the cost. With regard to the Komata Reef, the same system of reefs existed, and, in fact, they formed a junction, which constituted a mass of ore 60 feet wide. (Applause.) Other reefs were known to be in the property, and a large amount of prospecting work was being carried out. He felt certain that the Komata Reef and the Komata Queen would be two splendid properties. (Applause.)

Mr. ALLEN enquired how long it would take to erect the machinery.

Captain ARGALL replied the work would be proceeded with as rapidly as possible, but he could not mention any definite time.

The CHAIRMAN next read the following cablegram from the local manager:—"Condition and prospects of the working are most encouraging. Argall's lode from the rise 22 feet. The width of the vein 9 feet. The average assay value of ore £20 10s. per ton. Lavington's. Have driven in upon the vein 40 feet. Have had samples assayed from the face with the following results—£2 7s. from the lowest level. A change for the better has taken place; running into softer ground. The tonnage of ore already stored on dump is 1000 tons, estimated to be worth £3500. There is every facility at hand for working the mine cheaply. Developments fully justify a judicious expenditure of capital, and I am sure it will be a very profitable investment." (Applause.)

A vote of thanks was accorded to Captain Argall, and Mr. J. A. Pond and Mr. J. Bennie, who had been attending to the property during Captain Argall's absence, and a like compliment to the Chairman and directors concluded the meeting.

ROBINSON SOUTH AFRICAN BANKING COMPANY, LIMITED.

The first ordinary general meeting of the Robinson South African Banking Company (Limited) was held at the head offices, 1, Bank-buildings, Lombard, on Monday, Mr. J. B. ROBINSON, the Chairman of the company, presiding.

The SECRETARY (Mr. James West) read the notice convening the meeting.

The CHAIRMAN said the cash in hand, with bankers and at branches, amounted to £159,646; deposits with bankers and loans on securities at short notice, £633,900; native gold in transit, £35,414; investments in Consols, £100,000 (these Consols stood in the books at par); other investments, £1,633,131; bills of exchange purchased and current at date, £234,368; bills discounted for and advances to customers, £617,173; and bills for collection, £3767. Against these assets the bank owed about £183,000, and putting aside the two items, bills of exchange and bills discounted for and advances to customers, they had about £1,200,000 cash in hand. He regarded the position of the bank as very sound. Their turnover in exchange between Johannesburg and London during the year had been £2,500,000—(applause)—and they looked for a considerable development of this branch of the business when they had the shareholders would observe from the list attached to the report that the bank was represented by firms of the first rank in the United States and on the Continent of Europe. The bank had already secured the nucleus of a very fine business in Johannesburg since they opened just a year ago, and had a large and valuable connection. The results were in every way satisfactory and up to the reasonable expectations, taking into account the exchange and banking part year and the keen competition in all exchange and banking business. He need scarcely tell them that the item of £617,173, advances to customers, was perfectly safe. The net profit for the year amounted to £131,636 after paying all charges and making full provision for bad and doubtful accounts, which, considering the times they had passed through, was very satisfactory. When he last had the pleasure of addressing the shareholders in November last, he ventured to make a forecast as to what the operations of the bank were likely to be during the year under review. At that time it was impossible to foresee the disturbances which had arisen in the country, but he thought they had acknowledged that in spite of those great difficulties the bank had done very satisfactory business during the last 12 months. He felt confident that when matters improved in South Africa they would see that improvement extended to the bank, and there was no doubt that they would be able to do a profitable business. Having dealt at some length with the disturbances which had arisen in South Africa, and detailed his negotiations with the Colonial Office in that matter, the speaker proceeded to say that the position was very much better to-day, and he felt confident that if they could have their rest in South Africa, and if those sensational rumours which were constantly started about the country could be stopped, they would see South Africa in a far better position in a few months than it had ever been before. He ventured to say, without fear of contradiction, that as far as the mining industry was concerned, in which the bank had a very large interest, it had never been in a better position than it was to-day since it was first established. (Applause.) He then proceeded to point out that the Transvaal Government had the welfare of the country at heart, inasmuch as they had dealt in a satisfactory manner with the labour and the liquor questions, and had

also established security of title. There was no doubt that the Government would have to face certain questions in connection with the future welfare of the country. At the present time the Transvaal had two valuable assets in the railway and the diamonds, and he was of opinion that the Government would have to take into consideration the advisability of taking over these two assets. It was his intention when he arrived in Pretoria to go into those questions very fully with the Government. The enormous profits which would accrue from the railway and the diamonds concessions he desired to see go into the coffers of the State, by which means the taxation of the country would be very much lightened. He happened to know that President Kruger was in favour of this policy, but, in consequence of recent events, he had not yet been able to discuss those matters with the Burgers of the country. With regard to the outlook, he had no hesitation in saying that there was not likely to be any disturbance in the country whatever. It was absolute nonsense to say that the Transvaal was desirous of breaking the Convention and declaring its independence. This would be entirely at variance with the welfare of the Transvaal, and nobody recognised this better than the President Kruger, who was an extremely clever man. He, like all others, recognised that the mining industry of the Transvaal was the basis upon which the financial superstructure of that country was raised, and that unless that base were solid the whole of that superstructure would become weakened, and would probably collapse. Dealing with the two assets held by the bank, he said that on the last occasion when he described the property they were not so far advanced as they were at present. They were now getting near the producing stage. The Porgos Mine was now at work and producing gold. The last month's output was 1100 ounces from 4000 tons of ore. The milling capacity was between 8000 and 9000 tons per month, and in about two months they would be able to work up to the full capacity. The North Randfontein was also at work, but it took some time to get the mine in full working order. The Robinson Randfontein was also well developed. The machinery was now arriving and was being put up, and they expected that in a few months they would be making a profit there also. Block A Randfontein was being developed, as also the Mynpacht Randfontein. By the last mail he had received a quantity of rock taken from ground which had not yet been formed into a company. The rock was remarkably rich, and gave very high assays. There were 15 companies yet to be formed in connection with the Randfontein property, but up to the present they had only formed five companies. The railway was approaching their property, which would materially improve it, by lightening their working expenses. If it had not been for the recent disturbances the property would have been very much more advanced than it was at present. They were now, however, proceeding rapidly with their development work, and had also got a better supply of labour. He looked upon that property as one possessing wonderful potentialities. There was no property on the Rand possessing such marvellous advantages with such virgin soil, and yielding such good assays, as was only during his last visit to the country, 18 to 20 months ago, that he succeeded in finding the reef, which they had been looking for for eight or nine years. The assays of the Robinson Randfontein and of Block A were marvellously rich. There was a gentleman present who had just come from the property, and no doubt he would say a few words about what he had seen. As far as the Randfontein shares were concerned, they stood in the company's books at something less than the figure which he announced at the last meeting. With regard to the Langlaagte Exploration and Building Company, they had formed a township at Langlaagte, in which the company held nearly one-half of the shares, and they hoped in a short time to have 40 more stamps at work upon the property. This was going to be a very valuable property indeed. The Government had taken ground for sanitation, and they had also agreed to purchase certain other blocks. Four blocks which had been sold had realised about £60,000. They had thought altogether something like 6000 stands on the property. The other assets which were embraced in the item of £1,033,131 consisted of shares belonging to subsidiary companies in the Randfontein. These subsidiary shares were invoiced in the books at a very low price, or at much less than the present market price. (Applause.) He looked upon the future of the bank as sound. Of course, with all the marvellous ups and downs which they had lately had it was somewhat dangerous to prophesy, but he did venture to assert that if only South Africa were restored to peace and quietness, and the sensational rumours to which they had lately been treated were stopped, by the beginning of next year they would see a marvellous change in the industry and confidence established. (Applause.) He concluded by moving the adoption of the report and accounts.

Mr. MAURICE MARCUS seconded the resolution.

Mr. HENRY CARTWRIGHT expressed his great satisfaction at the report and balance-sheet which had been issued, and for which the greatest credit was due to the Chairman and directors.

Mr. A. B. MARKHAM, who had recently returned from the Randfontein property, said he could endorse all that the Chairman had said with regard to the great value and wonderful potentialities. He dealt at some length with the various properties, and expressed a confident belief that large profits would accrue, as the result of their operations there. He also spoke in high terms of the extremely honest manner in which the properties were conducted, and also of the services of Mr. Langerman and Mr. Clay.

The motion was then unanimously agreed to, and a dividend at the rate of 10 per cent. per annum having been declared, the retiring directors and auditors were reappointed.

A vote of thanks to the Chairman and directors concluded the meeting.

WEST AUSTRALIAN MINES DEVELOPMENT SYNDICATE, LIMITED.

The second ordinary general meeting of the shareholders of the West Australian Mines Development Syndicate (Limited) was held on Wednesday, at Winchester House, Old Broad-street, E.C., under the presidency of Mr. W. F. ORRIS (the Chairman of the company). The SECRETARY (Mr. E. Fairweather) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—The report and accounts show the result of 15 months' actual work, and in asking you to adopt the report the directors trust that they have met with the general approval of the shareholders. You will have seen from the report that the net profit for this period, after writing off the entire preliminary expenses and making ample provisions for depreciation, amounts to £100,483 1s. 3d.—(applause)—of which £58,540 7s. 4d. is profit in cash and £41,922 13s. 11d. profit in shares. You will observe from the balance-sheet that our issued capital only amounts to £115,567. Therefore, I think this result in so short a time, with so small a capital, cannot fail to be regarded as distinctly satisfactory. (Applause.) A few days ago I had the pleasure of meeting the shareholders of the Venture Syndicate in this hall, and submitting to them results almost equally good. As you are probably aware, the Mines Development Syndicate was the first to come to a working arrangement with the Venture Syndicate, and its lines have been almost identical with that syndicate. To put it shortly, with the same staff there and in London, and practically under the same management in both places. You will, therefore, appreciate the fact that I had the pleasure of very recently addressing to the attention of the figures of the combined balance-sheets, which are as follows:—The paid-up capital of these two syndicates amounts to just over £40,000, and the net profits of the two syndicates, working for a period of 15 months, and after writing off the entire preliminary expenses and making liberal provision for depreciation, amount to the sum of £204,562 11s. 4d.—(applause)—the profit in

cash amounting to £121,764 3s. 6d., and the profit in shares to £82,798 7s. 10d. The profit, therefore, exceeds five times the paid-up capital of the combined syndicates. (Applause.) In October last an interim dividend, amounting to the whole of the ordinary capital then paid up, was declared, and it is now proposed to pay a dividend of 10s. per share on the ordinary shares, making in all 20s., and a dividend of £25 per share on the founders' shares, both free of income tax, and to place to reserve the sum of £67,129 14s. 7d. (Applause.) Our reason for placing so considerable a sum to reserve is the present depressed condition of the Mining Market. It would be manifestly unwise to make further issues in the existing condition of things, and should this condition of things continue, we must, in conjunction with the companies allied with us, have ample resources available to develop and work our own properties, pending that improvement which our intimate acquaintance with West Australian matters makes us reasonably certain, must ensue to carefully-selected and well-managed properties out there. We would like the shareholders to realise that, notwithstanding the present depression in all matters connected with mining, we have made satisfactory progress, inasmuch as since the beginning of last month the group have succeeded in disposing of three of their properties, two of which have been sold in London and one in Western Australia, upon terms which will bring this syndicate a profit of some £12,000 as its share. (Applause.) This, I hope you quite understand, is since the date of the accounts, which you have before you to-day, and all these sales that I have referred to fall to be completed before the end of this current year. Since the Venture meeting was held I observe an Act has been passed in the Legislative Assembly of Western Australia which will considerably ameliorate the labour conditions, which, we know, as men engaged in West Australian business, have in the past been of a very onerous character. The Act which has recently been passed renders it now necessary to have one man on 5 acres, instead of as formerly one man on 3 acres, which, to put it shortly, means that on a 24 acre lease we now have to put five men as against eight formerly. This is a very distinct advantage. It is the thin end of the wedge, and we are hopeful that as time goes on we may yet derive further concessions from the Western Australian Government, as they have evidenced their wish to meet these exploration companies and the people interested in mining out there by the construction of railways, and by the passing of an Act to overcome, as far as practicable, the water difficulty. These concessions, we may assume, are consequent on the Government of Western Australia being convinced that this is a permanent and very rich gold field. I have very little else to say to you to-day, because the report goes fully into the details of the business; but I may touch on the fact of our having appropriated a portion of your capital to the construction of buildings in Perth and Coolgardie. We have done that for two reasons—the first being that adequate and ample accommodation for our staff there is a necessity for the proper and careful conduct of our business in these places; and, secondly, I believe—and my co-directors agree with me—that in having invested your money in this way we have, at the present enormous increase in value of landed property, both in Perth and Coolgardie, made you as safe and profitable an investment as it is possible for us to have done. (Applause.) With regard to the amount we have carried to reserve, no doubt it does strike a casual observer as a very heavy sum, but at other meetings of companies allied with this we have expressed the intention, and I repeat it now, to dispense in every way we can with calling up any further sum on the share capital of these companies. (Applause.) I cannot conclude my remarks without paying a tribute to the very great ability, and the unwearied assiduity, I may say, of our managing director, and of our manager in the interests of this company. (Applause.) I may say you would have had very great difficulty in securing two men more fitted to occupy their positions, and I am absolutely sure that it would have been very difficult for you to have secured the services of two men who have thrown their heart and soul into the business and worked for it—I was almost going to say day and night—to the exclusion of every other interest to make this company a success. (Applause.) With your permission I will now formally propose: "That the report of the directors and the accounts be received and adopted, and that the dividends therein recommended be declared."

Mr. G. H. COLLINS seconded the motion, which the Chairman put to the meeting, when it was found there was one dissident, whereupon the Chairman asked that gentleman to explain his objection in order that if possible the meeting might be unanimous.

Mr. GEEN said that according to the Articles of Association the founders' shares were not to get any dividend until 100 per cent. had been paid to the ordinary. Up to the present time 10s. had been paid to the ordinary, but the directors proposed to pay half to the founders' and half to the ordinary shares. What he wanted to know was why the ordinary shares did not get the 100 per cent. before the founders got anything.

The CHAIRMAN: If that is your question, allow me to put it to you in this way. This question arose some time ago, before probably it occurred to you. It was raised by one of the largest shareholders in this group, and a point was made of this question. Thinking the best and only course to satisfy the shareholders was to go to the Court, an action was tried before Mr. Justice Stirling, and all the facts were adduced on both sides, eminent counsel being employed, and Mr. Justice Stirling directed us to apply our funds as we have done. Therefore, on the ruling of the judge, we have no alternative but to carry out his decision, and that has been carried out in the distribution of the funds as put before you in the report. May I take it that is satisfactory to you?

Mr. GEEN: Certainly.

The CHAIRMAN: If so, I should very much like the shareholders as a body to be satisfied with this report, and that it should be carried unanimously.

The motion for the adoption of the report was then unanimously agreed to.

Messrs. Monkhouse, Stoneham, and Co. were re-elected auditors, on the motion of the CHAIRMAN, seconded by Mr. S. W. PADDON.

Mr. BOVERTON REDWOOD, as one of the fortunate shareholders in this syndicate, wished to propose a resolution. It could not be denied that the industry in which they were all interested was passing through a period of difficulty, which was necessarily one of some anxiety in a certain sense; but, having regard to the remarkably satisfactory character of the result placed before them to-day, he was sure that the shareholders present, one and all, were animated by a feeling of perfect confidence in those who had hitherto so successfully guided the affairs of the syndicate. The ability and zeal, tempered with discretion, which had been shown were sufficiently clear from a consideration of the report and the statements of account which had been unanimously adopted. It was, therefore, unnecessary for him to descend upon those qualities, and he knew he was doing what all present desired when he asked them to pass a very cordial vote of thanks to the Chairman, and to the exceptionally able colleagues with whom he was fortunately associated, for their past services. (Applause.)

Mr. THOMAS RICKARD, in seconding the motion, said he thought it would be very cheerful and grateful, in view of the magnificent results of the first year's existence of the company, if the shareholders failed to thank the board heartily for what they had done. It was evident from the undertone of the Chairman's speech that circumstances, as they began to present themselves in West Australia, had something rather deterrent about them. There was no blinking the fact that they might be so, but it was nevertheless manifest that a board of directors who had been capable of conducting the affairs of the company with such conspicuous ability, had a right to the confidence of the shareholders in the next phase of the business, whatever that phase might be. For himself, he felt absolutely confident that whatever might betide, the gentlemen at the head of the company would do the proper thing, and, if anybody could do so, would maintain the success and the good tone with which they had started the company.

The vote of thanks was carried unanimously.

The CHAIRMAN, on behalf of his co-directors and himself, said it was a matter of great gratification that the shareholders had so cordially shown their appreciation of the services of the board. He wished them to believe that what they had achieved in the past they would endeavour to accomplish in the future, and at the next meeting he hoped to submit a statement to them which they would regard as very satisfactory.

The proceedings then terminated.

UNITED EXPLORATION COMPANY, LIMITED.

An ordinary general meeting of the shareholders in the United Exploration Company (Limited) was held at the Cannon-street Hotel on Thursday, Mr. OSCAR QUENTIN (the Chairman) presiding.

The SECRETARY *pro tem.* (Mr. G. C. Walker) read the notice convening the meeting.

The CHAIRMAN said:—I will first deal with the accounts, and subsequently with the prospects of some of the various properties in which we are interested. The whole of the £250,000 capital issued was readily taken up, and applications were received for further shares, but your board deemed it advisable that the amount mentioned should not be exceeded. It will be seen that some of the shares were issued at a small premium, which is carried to reserve account. The first item on the credit side of the balance-sheet represents our holdings valued in the very drastic manner referred to in the report, in regard to which I do not know that I can add anything more than to say that I am sure the shareholders would not desire us to recommend any other course than to make full provision for depreciation. In regard to the profit and loss account, I think you will agree (when I tell you that the gross amount of the profit was realised, except in the case of one matter, by November, 1895) that the result at that time was eminently satisfactory. We were considering the advisability of distributing an interim dividend at the end of last year, but the deplorable events of December and January, of which you are all cognisant, rendered it, in our opinion, undesirable, and the sequel has proved we were right. I will not dwell upon the utter impossibility of making profits since that time, as the causes must be, unfortunately, only too familiar to all of you. At the present time it may appear optimistic to say that we anticipate a large recovery of the heavy depreciation it has been necessary to provide for, as well as substantial profits. Prices may drop still further, but I do not think any person would liken the present position to that of 1890, as, not only is credit unimpaired, but the Witwatersrand gold mining industry is in an immeasurably superior position to what it was at that time, and, therefore, we say that the present want of confidence in the future will, we believe, not last long. I will now say a few words on the operations of the company. Our chief object has been to acquire properties upon the continuation or dip of known payable reefs, with a view to their exploration and development, and sale to subsidiary companies. Ample working capital was provided for the companies, but it is, of course, too early yet to expect returns. In addition to the interests referred to in the consulting engineer's report, the company holds others, some of which have not realised our expectations, but others are of a promising character, amongst the latter being Knight's Deep, which has a capital of £550,000, of which nearly £150,000 is working capital. That company owns 185 claims in the Witwatersrand district. Two shafts are being sunk, which are expected to cut the reef at a vertical depth of from 1300 to 1500 feet. One shaft was down 392 feet, and the other 419 feet in September. The property is the deep level of claims of the Witwatersrand (Knight's) Gold Mining Company (Limited). The Central Nigel Deep (Limited) is another undertaking in which we have acquired an interest. It has a capital of £250,000. Its property consists of 518 claims, situated on the dip of the Nigel Reef. The depth of the respective shafts, numbered 1 to 3, was, at the end of September, 542 feet, 585 feet, and 435 feet respectively. The sinking is being pushed on rapidly, and it is estimated that the reef will be struck at depths varying from 1600 to 2250 feet in the various shafts. As mentioned in the consulting engineer's report, there is now under consideration a scheme for the amalgamation of the whole of the deep levels of this district into one powerful company. We are interested, as shareholders, in the Consolidated Gold Fields of South Africa (Limited). We are also interested in the Eastleigh Mines (Limited), a property which consists of the outcrop of the reef, which we are expecting will be struck in depth at any time in the Eastleigh Deep. We have confidence in this property, and this is justified by the production, the returns in gold for September and October being respectively 2486 ounces and 1950 ounces, the latter being for 17 working days only. The September results were obtained from 4431 tons crushed, yielding 809 ounces; tailings treated 3510 tons, yielding 1358 ounces; slimes treated 945 tons, yielding 319 ounces. October details are not yet to hand. I am able to supplement the information contained in the consulting engineer's report by the following:—"In O shaft the Nigel battery reef has been cut 30 inches thick at 455-457 feet. The finding of this reef is of interest, as it indicates that the Nigel reef will be found in O shaft at between 800 850 feet. In D shaft, which was down 546 feet on October 1, the Nigel reef should be found at 600 650 feet." At the Eastleigh Deep Mine a reef 8 inches thick was cut in No. 1 shaft, at a depth of 453 feet. The reef, the manager says, is identical with the reef overlying the Eastleigh reef, about 40 feet above it, so that the reef should be struck by the end of November, and that in the case of the Central Lydenburg Gold Fields, the claims have been found on survey to number 684 instead of 623, as mentioned in the report, and that the reef known as the Theta has improved, giving a panning of 10 dwts. over 18 inches in one of the drives. The interest taken in mining ventures having this year spread all over the world, and particularly to California, where it has been considered now possible to work the huge low-grade deposits of the mother lode of California, the board have acquired an interest in the California Exploration Company (Limited), a company formed to develop a large acreage on this lode. This interest was acquired in conjunction with a leading banker in San Francisco and others. Calaveras County is situated in about the centre of the mother lode of California. Whilst both north and south many rich mines have been developed and successfully worked by water power on the same mineral veins, Calaveras has been comparatively neglected, owing to its elevation rendering it impossible to carry water to the mines at a pressure sufficient to develop power for pumping, hauling, and crushing. The California Exploration Company, in the first instance, obtained long options of purchase of a number of mines and properties in Calaveras County, through which the veins of the mother lode run, and then made a contract with the Blue Lakes Water Company, who own the only available perpetual source of supply, for the exclusive right of supplying the county with electric power. The California Company is, with the Blue Lakes Company, erecting a large power station at the terminus of their race at Mokelumne, and there will be sufficient water to generate power beyond any probable requirement, it being estimated at 15,000 h.p. Messrs. Parker and Jansen were sent out to report on the properties—Mr. Parker being the late manager of the Simmer and Jack Gold Mining Company, and Mr. Jansen, of the firm of Touzeau and Jansen. The California Company has a capital of £400,000, and is incorporated in the United States; its issued capital is £250,000, of which about £80,000 is working capital, and the balance of £150,000 is unissued and available for further working capital. Mr. Parker has been appointed manager of the California Exploration Company for a term of two years. There is an interest referred to in the consulting engineer's report to which, I think, I can with advantage give you some further information, and that is in connection with the Leicester Consolidated Diamond Mines. This company has acquired 701 claims in the Leicester Diamond Mine. Mr. Edwin Parsley, who reported upon the property for us, estimates from the results obtained up to the time of his visit that with the latest machinery the Leicester Mine should return at least 5½ carats per 100 loads

of the value of 40s. per carat. Allowing 1s. per load for expenses, this would give a net profit of £6 per 100 loads. We understand that this is a very safe estimate; for it has been proved in other times that the machinery, which has been ordered for the Leicester Consolidated Mines at a cost of about £50,000, and which is of similar type to that now in use by the United Mines, Bultfontein, has increased the return per 100 loads from 4 to 11 carats. Notwithstanding present imperfect machinery, and the large quantities of barren top soil and sandstone which have passed through the machine, the results to November 2 are given as approximately 105,206 loads washed, producing 3653 carats, valued at £7590 7s. 3d., or over 41s. per carat. As stated before, a similar gear to that which has been ordered for this company is now working at the United Mines, Bultfontein, and I am informed that, including all charges, the cost per load does not exceed 10s. 3d., and as the working conditions at the Leicester Mines are, if anything, more favourable, it will be seen 1s. is a liberal estimate for the cost. Taking the results obtained in other mines under similar conditions, it would, perhaps, not be over sanguine to reckon that when in full swing the Leicester Consolidated Diamond Mine will be able to wash weekly an average of about 30,000 loads, yielding at a low estimate 8 carats per load. I now beg to move the adoption of the report and accounts.

Mr. CARL WICMANN seconded the resolution, which was carried unanimously.

The auditors (Messrs. Fuller and Wise) were reappointed, and the meeting was then concluded.

WARATAH GOLD MINES, LIMITED.

The ordinary general meeting of the shareholders in the Waratah Gold Mines (Limited) was held on Tuesday, at the Cannon-street Hotel, Mr. RICHARD COBY, J.P., presiding.

The SECRETARY (Mr. A. B. Beeston) read the notice convening the meeting.

The CHAIRMAN said: Since I had the pleasure of meeting you at our annual meeting on December 17 last good progress has been made in developing your mine, and the results have far exceeded the hopeful expectations which I then expressed. The report contains very full information in regard to the work which has been carried out in your mine during the first 12 months, and I do not wish to take up your time by discussing it at any great length. There are several matters, however, to which I will refer. It is our intention in future to have the annual accounts made up to June 30, and to hold our meeting as soon after that date as possible, say some time in September. Although you will, no doubt, consider the mine developments satisfactory, yet it has not been all plain sailing, as the heavy rainfall in February, March, and April last interfered with mining operations, and retarded work in the mine to a considerable extent. We are now, however, placing a more powerful pump in the mine, so as to cope with the large influx of water which we may take during the wet season every year, and by means of this new pump we expect in future to carry on the work without any hindrance by water. Since the date of the issue of the report we have received a very important cablegram from the manager of the Waratah Mine as follows:—"Struck a very rich body of ore in sink. The best yet obtained. Prospects are grand. Will obtain and forward specimens by first mail. Reef 2 feet thick." This is no doubt a very important strike, especially when you read this cable in conjunction with the cablegram received on the 5th instant, in which it is stated that the assay for gold in the lower levels is £22 per ton, which is equal to 55 ounces. Although the value of the ore mentioned in the last cablegram is not stated, it must be clear that it exceeds in value £22 per ton for gold only. The value of silver contained in the ore is not stated. It is also most satisfactory to find that this rich portion of the lode is 2 feet thick. We expect that by this time the underlie shaft has reached a depth of nearly 650 feet. It has been the policy of the board to sink this shaft as rapidly as possible, in order to have plenty of ore opened up to keep the mill continually going when it starts crushing. According to the manager's estimate, we have now ore in sight nearly sufficient to keep the mill going for about a year, but during next year we expect to continue opening up ore sufficient to maintain, if not to exceed, the reserve of ore opened up when we started crushing at the end of this month. In May last the directors purchased two crushing mills, a mine formerly belonging to the True Blue Gold Mining Company (Limited), including winding machinery thereon, and also two lots of tailings, estimated at 7000 tons, the whole of which only costs your company £2500 cash. Our object in making this purchase was mainly to secure at a low price a mill to erect on the Waratah Mine. We intend to treat the tailings purchased, and when the True Blue Mine is opened up to form a new company to work it, unless the shareholders of the Waratah Mine prefer that we should continue to hold it. One of the mills purchased was known as the Mark Twain battery, and was erected at a distance of about 6 miles from the Waratah Mine. It was decided to remove this mill to the Waratah. The machinery comprises a 25 horse power horizontal engine, a 35 horse-power Cornish boiler, and 10 stamps of 10 cwt. each, with the usual battery boxes, copper plates, crushing tables, Berdan's, &c. The machinery is capable of driving 20 head of stamps. We do not intend to add another 10 head of stamps immediately, but propose to do so as soon as further developments in the mine justify it. The manager of the mine considered that he could easily keep 20 head of stamps going, even if erected at present. We prefer, however, to have the mine further opened up, and more developed, before adding additional plant. Since the purchase of the mill our manager has also purchased first class concentrating machinery, stone breaker, and automatic feeders at a very low price, and these are now being erected, and will be the means of considerable saving in labour, as well as making the mill plant more effective. The True Blue Mine is known to some extent in this country, as a large number of the shares were held here. The capital of the company was insufficient for the purpose of carrying on work on the mine in a proper manner, and when the capital was exhausted the mine was let on tribute. The True Blue lease consists of 15 acres, and is situated about a mile and a-half from the town of Oroydon. With the mine we purchased a winding engine and boiler erected thereon; also the True Blue mill of 20 stamps of 8 cwt. each, four battery boxes, copper plates, tables, a 20 horse-power horizontal engine, a 20 horse-power semi-portable boiler, four concentrators, and the usual machinery and fittings for a mill in working order. This mill is estimated to crush 190 tons per week. After purchasing the True Blue Mine we obtained a report on it from the manager of the Waratah. He recommended that the underlie shaft should be widened, and a double tramway put in for the whole distance of 550 feet, and estimated that the cost would be about £1000. This work is now in progress, and should soon be completed. On the completion of the underlie shaft to a depth of 550 feet he recommends that it be carried down a further distance of 100 feet, and that then a considerable amount of backs would be opened up to work on. He said that where the reef was exposed, although small, it was of good quality. I now come to the question of the increase of capital. As you are aware, the capital of the company is £50,000, in 100,000 shares of 10s. each. The working capital was £15,000. This is now exhausted, and, although your directors hoped to have been able to carry on operations until such a time as the mine was in a paying condition without increasing the capital, we have not been able to do so, partly owing to the delay in operations during the wet season early in the year, to the delay in the erection of the mill, which was unforeseen and unavoidable, and also to the expenditure for the purchase of the two batteries and the True Blue Mine. I think you will agree with me that for the expenditure of the working capital of the company, £15,000, we have shown very good results indeed, and feel sure that you will readily agree to the increase of capital by the creation of 50,000 new shares of 10s. each. We propose to issue at present only 25,000 shares, amounting to £12,500, which will be offered to all

the shareholders *pro rata*. With the proposed present issue of 25,000 shares, the total capital of the company will be only £62,500, which, considering the apparent great value of our property, is very small indeed. I now beg to move—"That the directors' report and statement of accounts as submitted be and the same are hereby approved and adopted."

Mr. J. W. WHITEHEAD seconded the motion.

Mr. JOHN McDONALD said that if the rich ore which had continued for some distance in the underlie shaft went for some distance farther—and they had no reason to suppose it would not—they ought to show immense profits on their capital. With regard to the True Blue Mine, there was no doubt that it would become a valuable property.

The resolution was carried unanimously.

The CHAIRMAN next proposed:—"That the capital of the company be increased to £75,000, by the creation of 50,000 new shares of 10s. each."

Mr. CAMPBELL seconded the resolution, which was carried unanimously.

The retiring directors and auditors were re-elected, and the meeting concluded with a vote of thanks to the Chairman and directors.

RIO TINTO COMPANY, LIMITED.

An extraordinary general meeting of the shareholders in the Rio Tinto Company (Limited) was held at the Cannon-street Hotel, on Thursday, for the purpose of considering, and, if thought fit, passing the following resolution:—"That the Articles of Association be altered by inserting after Article 18 the following Article, namely:—"Article 18a. The special resolution whereby any share is sub-divided may determine that, as between the holders of the shares resulting from such sub-division one of such shares shall have any preference fixed by such resolution over the other of such shares, and the respective rights attached to such shares respectively shall in all other respects be respectively such as may be fixed by such resolution, and that the profits applicable for payment of dividends on such shares, and the capital repayable in respect thereof may be appropriated accordingly."

Notice was further given that, should the resolution be passed by the requisite majority, it would be submitted to a second general meeting, to be subsequently convened, for confirmation as a special resolution.

Mr. HUGH M. MATHEWSON (Chairman of the company) presided.

The SECRETARY (Mr. George N. Thomson) read the notice of meeting.

The CHAIRMAN said: Gentlemen—Before putting the resolution which has just been read in the notice calling the meeting, I feel it is right I should give you, on behalf of the board, the general features of the plan for dividing the company's shares into preference and ordinary, which, in the exercise of our best judgment, it is our intention, at a later meeting, to recommend for your adoption. But I hope it will be clearly understood that this particular meeting is called for the sole purpose of passing, if you please, a small addition to the Articles of Association, which is necessary in order to make it legal to give a preference to some of the shares. Such authority is now, I understand, almost universally given in the articles of joint-stock companies, but in ours there is an absence of such authority. After you have adopted, as I hope you will, the addition provided for in the resolution, and a statutory meeting, a fortnight hence, has confirmed it, we shall then call another extraordinary general meeting, at which the definite scheme of the conversion will be put before you in detail, and you will be asked to accept it in the form in which it will then be offered. It is proposed to divide the present £10 share into two shares of £5 each, one to be a preference share, with a fixed cumulative dividend, the rate of which has not yet been fully determined, the other to be ordinary. The preference shares will afford to many of our friends what may be considered a perfectly safe investment, and will, generally speaking, fluctuate very little in price. The ordinary shares, after all proper provision is made for writings off, and for making reasonable additions to the reserve fund, will receive, as dividend, the balance of revenue. For example, in the case of the present year, when an interim dividend of 18s. per share has been paid—if we assume, and it is a reasonable assumption, that a similar amount will be divided next April as final dividend for the year, these together making 18 per cent., will amount to £585,000. Supposing that this sum were divided under the new plan, the preference shares would get—say at 5 per cent., although we do not commit ourselves to that figure—£292,500, and the ordinary 31 per cent. £500,750, making in all £585,000. In calling the preference shares a safe investment, I may remind you that the worst year the company ever had since we began to pay dividends was 1887, the year immediately preceding the great speculation of M. Secretan. In that year we paid a dividend of 3 per cent., or 6s. per share of £10, whereas the new preference shares will only require 5s. per similar share to pay 5 per cent. Therefore, there is no precedent in 18 years for a dividend which would not provide for that to be now allotted to the new preference shares. The average dividend paid by the company over 18 years has been 10.11 per cent. The lowest was 8 per cent., the highest 18 per cent. I may mention the saving of 1 per cent. in the interest of our bonds made last year will nearly pay the whole dividend in the new preference shares if at 5 per cent. I may mention that it is intended that the old shares as at present will continue in force till after the payment of the final dividend for 1896 about May 1, when they will be exchanged for the new shares. This concern cannot be considered any longer simply as a mine; it is more correctly described as an industrial undertaking. You will remember that our engineer, after the most careful calculations, has given the deliberate opinion that we are within sight or striking distance of 133,000,000 tons of ore, sufficient, at the highest rate of output for any past year, to supply sulphur and copper to meet the company's requirements for the next 70 years. And this is independent of the remaining unexplored portion of the company's property. The company is in a position to turn out steadily at least 30,000 tons of refined copper per annum, upon which a very handsome profit is made at present prices. There cannot be any doubt, and there is none in the minds of those that are informed, that the consumption of copper may now be said to have overtaken the supply, and that, with the greatly extended uses for the metal it is, to say the least of it, extremely improbable that prices can recede for some years to come. If, contrary to every expectation, they should suffer a decline of even £10 per ton, this company would still pay a good dividend. (Cheers.) The universal opinion, however, is that prices must advance. It is, therefore, with the utmost confidence in the position and prospects of this company, that I propose to you the change in our Articles of Association as a useful preliminary to the division of the shares which will be brought forward at a later meeting. What I have said to-day is for information only, as I have stated there may be full discussion at the subsequent meeting. But if any gentlemen should wish to put any question to clear up a point I shall be happy to answer to the best of my ability. Is there any question that anybody wishes to put to make any point clearer?—(After a pause)—Then, if not I will read the resolution again and move its adoption.

The resolution having been read,

Mr. KESWICK, Deputy-Chairman, seconded the motion.

The CHAIRMAN: As many as are of that opinion kindly signify the same. On the contrary. It is carried unanimously. The notice convening the statutory meeting will be issued to-night, and that meeting will be called on Friday, December 4, which is the nearest complete fortnight, and after that, should you confirm the resolutions of to-day we shall issue, as I have said, a notice for another extraordinary meeting, which will deal with the changes in detail, and you will then have the opportunity of knowing them more fully than I have stated them to-day. Gentlemen, the meeting is at an end.

NEWPORT ABERCARN BLACK VEIN STEAM COAL COMPANY, LIMITED.

An extraordinary general meeting of the shareholders in the Newport Abercarn Black Vein Steam Coal Company (Limited), was held on Thursday, at Winchester House, E.C., Mr. W. A. SOAMES presiding. The meeting had been called by requisition of the shareholders to approve or disapprove of the directors' proposal to continue Messrs. Baynon and Co.'s agency for the other two years from the month of March next at the reduced commission of 2½ per cent., and also to consider the advisability of instructing the directors on the following points:—The London office to be discontinued; the company to be shippers of their own produce; to either appoint a salesman or Messrs. Baynon and Co. as agents at a fixed salary; the staff at the shipping port to be reconstituted and strengthened by the appointment of a resident director; the directors to meet at the colliery at Newport; the remuneration of the directors to be reduced from £1300 to £700.

The SECRETARY (Mr. Arthur B. Mallett) read the notice convening the meeting.

The CHAIRMAN said, in opening the meeting, he did not wish to go into the question as to whether Messrs. Baynon and Co.'s agency was a good or bad one, but before the matter was discussed by the shareholders he wished to read a letter from the firm. The directors considered that they were authorised by the shareholders at the last meeting to enter into the agreement with Messrs. Baynon and Co. When it was ready for signing a certain number of shareholders who had approved of the terms at the June meeting started an agitation to alter the same, and to get the directors to withdraw from the agreement. Now that put the directors in a very unpleasant position, for, individually, none of them would have ever dreamed of withdrawing from an agreement which had been actually settled by the solicitors to the parties. Therefore, he was astonished that Mr. John Proude and his supporters should now appeal to the other shareholders to upset the agreement. Although, however, they were perfectly justified in signing the agreement, the directors did not wish to do anything against the will of the shareholders—if they erred at all, they preferred to err on the shareholders' side. But Messrs. Baynon and Co. had now willingly and voluntarily withdrawn from their part from the contract, stating in a letter which he received the previous evening, that they wished to give the shareholders a free hand in the sale of their coal. They did not wish to put any obstacle in the way whatever, being willing, not only to withdraw, but also to support whatever a committee of shareholders might advise as to the best means for the sale of the coal. (Applause.) He (the speaker) thought that cleared the ground very much.

The SECRETARY then read the letter from Messrs. Baynon and Co., which was to the effect stated by the Chairman.

Mr. JOHN PROUD said, as one of the most active promoters of the requisition which led to the calling of that meeting, it devolved upon him to open the proceedings, and endeavour to indicate the course which he thought the shareholders should adopt with regard to the business that would be brought before them. The first part of the requisition dealt with the renewal or non-renewal of the agency of Messrs. Baynon and Co., and this was the most important part of the business they had to transact. The resolution he had to propose on the subject was to the effect that the meeting disapproved of the proposal of the directors to continue Messrs. Baynon and Co.'s agency after March next. Having explained that he represented the views of some 200 shareholders, whose interest in the company was to the extent of 100,000 shares, he proceeded to explain the main reasons for seeking a termination of the agency. The first was that £5000 or £7000 a year was too much to pay for the sale of their coals, and the second one was that under the contract Messrs. Baynon received the chartering brokerage, the profits on the trimming, bunkering, and dispatch. His contention was that these profits should come into the coffers of the company, and should not go into the pockets of the agents. In the north, he knew from experience, that this was the case. Of course, in connection with this matter they would hear something about Messrs. Baynon's responsibility with regard to demurrage and bad debts. But he was told that the profits on trimmings would far more than cover these two items. At least it was the means of leaving a profit of £5000 or £7000, depending, of course, upon the price the coal realised. Of course the agents had to provide offices at Newport, and have some one to represent them in London. Another serious objection was that Messrs. Baynon and Co. had the sole agency for the coals, and it was impossible for the company to sell even a ton of coal to anyone else. The next objection was that it conveyed power to Messrs. Baynon to buy from the company as merchants. They had no right to sell anywhere else, but, in spite of this, the directors were obliged to sell to the agent, who in addition got 2½ per cent. from the company on their purchases. Surely this arrangement ought to have been put a stop to under any agreement the directors contemplated making. The next point he urged against the contract was that, although they had been trading for the last 22 or 23 years, they had not a customer of their own in the world, for the coal was sold in Messrs. Baynon's name. Was not that discreditable to the company, and was it not time that they put a stop to such an arrangement? He believed that all the leading collieries in Wales had their own salesmen and shipping offices. ("No, no.") Well, if there were any exceptions to the rule he would be glad to hear of them. The best argument against their system was their experience of it. Then again the time might be very near when the colliery would have to be put on the market. Some of his friends recommended that course being taken 12 months ago, and he believed that it would have been a good thing if this course had been adopted, for they were £20,000 worse off now. But they had always to bear in mind that the colliery might come into the market; assuming that the encumbrance was still on the property, it would reduce its value, and possibly it would be unsaleable altogether. Now had they any authority, any example, or any precedent to ask the directors to undertake the sale of their own coal? Three or four years ago the International Colliery found themselves burdened with an agency. A committee was appointed to inquire into the matter with the result that they recommended the directors to get rid of the agency as soon as possible. This was done, and he had not heard since that the company had gone back to the old system. The objections he had mentioned, he thought, were very important ones, and he felt himself, from the little knowledge he had of the matter, that they must to-day begin trying to rejuvenate the company by altering the state of things which had now existed for years. If they did not take care the patient would die in their hand, and, therefore, he had no hesitation whatever in placing the proposal before them: "That this meeting disapprove of the proposition of the directors to continue the contract with Messrs. Baynon and Co. after March next."

Mr. JOSEPH EDGE seconded the resolution.

Mr. J. J. BEYNON denied that his firm got any chartering commission. Mr. Proud also said they got profits on bunkering, but this went to the colliery, while the company had nothing whatever to do with the trimmings. This matter was in the hands of the coal trimmer, and they paid them a ½d. a ton for collecting the trimmings accounts, for which they guaranteed the agents against any bad debts incurred. Again, it was equally untrue that the agents received the dispatch money. No coal was sold by them on their own account, but all contracts were sanctioned by the directors. Messrs. Baynon and Co. did not sell the coal in their name, but as Newport Abercarn produce. He also denied that the International Colliery was selling their coal direct.

Mr. BEDINGTON pointed out that two things in favour of the colliery was its close proximity to a port, and the fact that the coal was noted for its quality. But it was a serious thing to contemplate that last year upon their output there was a loss of 6d. a ton. The most important point to his mind was whether the trade was done in the company's name or in that of the agents, as on this question depended whether they would, if they traded for themselves, have to open almost a fresh business. Another important thing was who settled the price of

£15,000 and £16,000. We do not, of course, write up anything

until it has been actually realised, but I think it right that you, as the shareholders, should know that the estate is there, although it does not appear in the full value in the accounts. In regard to the company's other holdings, the nine farms and 120 claims in Matabeleland will be dealt with quite differently, and I believe they will turn out to be very valuable to the company. I may say that, having regard to this information, we felt all the more warranted in dealing with the Central Montrose shares. I do not think there is anything further for me to say respecting the accounts, but I shall be pleased to answer any questions which may be put to me, and in the meantime I have merely to move the adoption of the report and accounts.

Mr. R. N. ROBERTS seconded the motion.
Mr. R. BUTCHER complained that the company had not been called together at an earlier date, and suggested that there was some want of energy on the part of the management. He knew that the past year had been a most disastrous one for all mining and exploration companies in the Transvaal, but he asked whether all the opportunities which had occurred had been turned to account. He appealed to the Chairman to furnish some more information as to the company's investments, which were lumped together in the balance-sheet.

A SHAREHOLDER thought that the balance-sheet in the way in which it gave the valuation of the company's assets made the position of the concern look worse than it really was.

The CHAIRMAN, in answer to these and other remarks, said that the larger amount expended on "cablegrams, postage," &c., was due to some exceptional matters which had occurred in the Transvaal during the past year, and which had necessitated a considerable and costly amount of telegraphing. Many of the telegrams related to properties which it was proposed they should take over and deal with, and which, on going more fully into the matter, the board did not see their way to acquire. With regard to the 14,032 shares in the Randfontein Company the board were keeping these until they had a market value which would enable them to be disposed of. At present the board preferred to enter them at the original cost. If there should be a market value for these shares, the whole character and aspect of the balance-sheet in relation to that matter would be changed. As to the suggestion that the directors would be unable to pay a dividend because they had written off these shares from the profit and loss account, he was afraid that the same would have been the case had they been left as they were, because they did not suppose the shares were of the value of £34,000, and they would have been obliged to take them into capital account in estimating the position of the company's capital in relation to any dividend they might decide to pay. He thought he might say, with some confidence, that had matters been in a better state they could have disposed of their properties in financial circles, and could not only have wiped off the loss, but have been able to pay to the shareholders, also a substantial dividend. They had great confidence in the properties they held, but they were unable, at the present moment, as everybody knew, to deal with them. They had been all ready for dealing with for a year, but the board had been unable to do so owing to the general state of affairs. The board themselves regretted considerably that the meeting had not been called at an earlier date, but matters had occasioned considerable delay, and the directors did not care to hold the meeting during the "dead" season. They had, therefore, postponed the meeting until the autumn, when everybody was supposed to be back in town, and that was the very earliest date they had been able to fix upon. As to the investments, he might frankly state that, if taken at to-day's prices, they would be found to show a small diminution.

Mr. BUTCHER: I think you ought to tell us what investments you have.

The CHAIRMAN: There is not the slightest hesitation in doing that. Our investments are in Nigel Deep, Consolidated Deep, Waiba Gold Mining Company, and Exploration shares.

The motion for the adoption of the report and accounts was then put and carried unanimously.

On the motion of Mr. ROBERTS, Mr. Thomas Bell was unanimously and cordially re-elected as Chairman of the company.

The CHAIRMAN, in returning thanks, said he was unable to accuse himself of neglecting in any way the interests of the shareholders, but circumstances had been such that they could not operate successfully. During the coming year, however, they hoped to be rather more successful. In any case, it would not be the fault of the directors if they were not.

On the motion of Mr. PREVITE, the auditors, Messrs. Welton, Jones, and Co., were unanimously reappointed.

The CHAIRMAN said that the auditors invariably did their work extremely well. It was, in fact, owing to their calling in question the value of the Central Montrose shares that they had been entered in the accounts in the present form.

Mr. BUTCHER, in moving a vote of thanks to the Chairman, said he was sure they could not have a better or more honourable man at the head of the board.

The vote having been cordially given, the proceedings terminated.

THE LINOTYPE COMPANY, LIMITED.

An extraordinary general meeting of the Linotype Company (Limited) was held on Thursday, at the Cannon-street Hotel, under the presidency of Mr. JOSEPH LAWRENCE (the Chairman of the company), for the purpose of submitting resolutions providing for the recapitalisation of the company.

The SECRETARY (Mr. William H. Lock) having read the notice convening the meeting,

The CHAIRMAN, in the course of his speech, said:—Gentlemen—We are met here to-day for the purpose practically of carrying out what I consider, a foregone conclusion, as attested by this mass of proxies from a large and overwhelming majority of the shareholders—more than three-fourths of the entire proprietary having voted in favour of the resolutions which have just been read by the secretary. The object of this recapitalisation scheme is to confirm an arrangement already provisionally agreed to with the holders of founders' shares. It has been a very dear wish of the majority of the shareholders of this company to extinguish the founders' shares for reasons which are pretty well known, and which have been well thrashed out at various meetings of the shareholders of this company. The provisional arrangement entered into between the directors and the holders of founders' shares, subject to your confirmation to-day, is to give every holder of a £20 founders' share £400 in shares of the proposed reorganised company. Those shares will be equally divided into preferred ordinary and deferred ordinary. The arguments in favour of that course were pretty lengthily entered into at the last meeting—a special meeting of founders—and a verbatim report of the proceedings at that meeting has been sent to every shareholder, and, practically, the sense of the proprietary already taken upon that proposition. Now, with regard to the method of carrying this out. We shall, of course, carry on our business as usual, without the slightest break in its continuity, if it is your pleasure to ratify the proposals which have already been laid before you in great detail. The confirmatory meeting will be held after 14 days have elapsed, and the finishing touch put to the compact that you may agree to. The Articles of Association of the new company are in all respects similar to the Articles of Association of the old company. They are practically recopied and reprinted, with few exceptions. As we are about immediately to apply to the Stock Exchange Committee for an official quotation of our securities, which we have every reasonable hope of speedily getting, we submitted the Articles to them for the purpose of inviting any amendments or corrections which they in their wisdom might suggest. They have made one or two very minor and trifling suggestions, which we have most readily acceded to, and, consequently, the Articles as they stand for the proposed new company have been passed by the Committee of the Stock Exchange. The next feature is in connection with the method of reconstruction; it is a mere matter of arithmetic. In a great many cases the present holdings will not make up an even

number of shares in the new company. Well, we are following the well-known practice of other companies in issuing for such small fractions what are called fractional certificates for tenths of a share. If in any case the holding of any individual person does not come to an even number of shares—an exact multiple, we will say, of £5—then we shall issue a fractional certificate for the balance. Now, gentlemen, that deals with the question of recapitalisation, and if it had not been for some little circumstances that have arisen in the last few days, I would have closed by formally moving the resolutions of which notice has been given; but we have had communications from shareholders in different parts of the country asking our opinion upon a new invention that has come out in the past few days, and has occupied a considerable share of attention. The invention is known as the Wicks machine. It is an old familiar friend to us, and like a good many other machines which come up something like hardy annuals, are perfectly acquainted with it; but, we say broadly, that these machines do not touch a hair of our head. They are not competitors with us in any sense of the word. Then, again, it is said, "Oh, but you cannot print books and magazines." It is probably not known to many of the shareholders of the company that we have already got machines in 40 book houses, and the principal one is "Kelly's Directory." Well, I challenge anybody in the City of London to turn out a better printed book than "Kelly's Directory." They have some 25 or 26 of our machines. Now, we have talked to you in the past about the book trade, saying we have got that matter under consideration. We have told you that we were experimenting and improving, and to-day it is my privilege and pleasure to tell you we have conquered that difficulty, and are now able to turn out a machine which we will be able to deliver next year for doing book work of the very best and highest kind. I have in my hand a bar of the type. Some of these will be handed round the room showing you the bars of type which are set up by our new piece machine. You will see the width of the column, which is two and a half times the width of the column of an ordinary newspaper. Our difficulty hitherto has been that we have not been able to make a line long enough to take up large books, parliamentary reports, and work of that kind; in fact, we have had to reconstruct our machine on somewhat different lines altogether for this purpose. Now, however, we have conquered this difficulty, and have produced an article, and there are some specimens of the printing by it lying on the table. I think that is an answer to a section of the complaint made by the promoters of the Wicks machine—namely, that we cannot do book work. I am reminded that we ought to tell our shareholders what excellent printing is being done by Linotype around us in London. We have pictorial papers that are set up by our machine; we have high-class toned glazed papers set up by it, and probably it is not known to even half in this room that *Punch*, which you read every week, is set by our machine. There is not a better printed periodical in the universe than *Punch*, which, as I say, is set up by Linotype, with the exception of the displayed advertisements. I do not think I need labour the question of these machines, statements as to which are got up for the purpose of creating a panic. We are sufficiently protected by being owners and promoters of the only invention that is likely in our lifetime to deal with the printing problem. We are the sole owners of every appliance and every patent, and provisional patent, and every idea, connected with the production of a bar of type; and that is, by common consent, the organic and fundamental basis upon which all future improvements in printing can be effected. We control and own that, and we are buttressing it up day by day by new patents, and it will be a very sorry day for anybody who attempts to infringe those patents of ours. (Applause.) I will now conclude by formally moving the following resolutions:—(1) "That the company be wound up voluntarily, and that Edwin Lewis Booty, of 183, Fleet-street, London, E.C., accountant, be and he is hereby appointed liquidator for the purposes of such winding up." (2) "That the said liquidator be, and he is hereby, authorised to consent to the registration of a new company, to be called the Linotype Company (Limited), with a Memorandum and Articles of Association which have already been prepared with the privacy and approval of the directors of this company." (3) "That the draft agreement between Edwin Lewis Booty (liquidator of the company) of the one part and William Henry Lock (trustee on behalf of a new company to be formed) of the other part, providing for the sale of the undertaking of the company to such new company, which said draft has been produced and submitted to the meeting, and a copy of which has been open to the inspection of the members of the company at the company's office for the eight days prior to November 17, 1896, be and it is hereby sanctioned and approved, and that the said liquidator be, and he is hereby, authorised to carry the same into effect, with or without such modifications, additions, or alterations therein or thereto as he and the directors of the new company may consider proper or expedient."

Mr. HAINES seconded the resolutions, remarking that, after the able statement that had been made by the Chairman, it was unnecessary for him to say anything in support of the scheme.

Dr. FEGAN said he heard of the Wicks patent about three years ago, and being interested in the Linotype he made minute inquiries into the matter, with the result that the conclusion he arrived at was that it in no way interfered with the Linotype. The speaker gave his hearty support to the scheme.

Mr. LASCELLES CARR said he was only a very small shareholder in the Linotype, but he was a very large user of the Linotype machine. (Applause.) To some extent his interests were conflicting. He would like to get the machine cheaper—(laughter)—and his great anxiety was not to see swollen dividends for the Linotype Company. He believed that in future the board's policy would be so to strengthen the organisation of the company that they would, not only during the terms of their patent, but for all time, establish themselves as the makers of the one most perfect and reliable means of setting type in this country. As far as his experience went—and he was interested in newspapers which used nearly 30 machines—every machine was a great money-saver. He believed that in one concern with which he was connected they would make the whole cost of the machines in what they saved during two years, so that at the end of that time the machines would stand them in at absolutely nothing, and would help them to make such reasonable profits as poor newspaper proprietors could make. (Laughter.) Up to the present the one feature that had been a little discouraging to them in this company was that they had not a machine that would set up book work. He was proud to say that that difficulty had now been overcome, and that on the present occasion there was evidence of that before them.

Mr. M. HALLWRIGHT said he was present at the meeting of the holders of founders' shares held three weeks ago, and in view of the opinions which he expressed on that occasion, he felt that he ought now to make the *amende honorable*, and say he quite concurred in the scheme which had been presented by the directors. (Applause.)

The CHAIRMAN then put the resolutions *en bloc*, and declared them to have been carried absolutely unanimously. (Applause.) The meeting concluded with votes of thanks to the Chairman and directors.

THE KLERKSDORP GOLD AND DIAMOND COMPANY (LIMITED).

This company held an extraordinary general meeting at Cannon-street Hotel, on Wednesday, the 18th instant, when the following resolutions, which were passed on October 21, were submitted for confirmation as special resolutions, and carried unanimously:—1. That the scheme submitted to and explained by the Chairman to this meeting, for the acquisition by this company of the property and assets of the Southern Klerksdorp Gold Mining Company (Limited), (a company registered in South Africa), be and the same is hereby approved, and that the directors be and they are authorised on behalf of the company to enter into and complete the necessary agreements and instruments to carry the said scheme into effect.—2. That the capital of the company be increased by £200,000 by the creation of 400,000 shares of 10s. each."

THE SCOTTISH AUSTRALIAN MINING COMPANY, LIMITED.

The half-yearly general meeting of the shareholders of the Scottish Australian Mining Company (Limited) was held yesterday at Winchester House, E.C., the chair being occupied by Mr. GEORGE SMITH (Chairman of the company). The SECRETARY (Mr. F. W. Turner) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—When we last had the pleasure of meeting the shareholders, the Newcastle coal trade was suffering from excessive competition and low prices. Since then there has been super-added a strike by the miners, and stoppage of work for three months of the half-year, and these circumstances combined have placed the balance of our profit report showed some improvement on its immediate predecessors. There was indication of increasing volume of trade, and although profits were still very small, the accounts then presented were a little better in that respect also. All progress, of course, was stopped by the strike. This strike arose from the belief of the men's leaders that the quantity of shipping in the harbour in the early part of this year was so large as to justify them in demanding an increase of wages. They did not perceive that in consequence of the very low price of Newcastle coal, and the fact that the vessels were contracted to be loaded at these low prices made it impossible for the masters to grant an increase of wages. The men simply saw the shipping in the harbour and pressed for an advance in wages, quite regardless of the power of the masters to grant it. You will easily understand that all this caused a vast amount of discussion, but nothing great deal of negotiation, to hold a conference of the masters and one side and the delegates of the men on the other, to set out the Premier of New South Wales. This was done, and both sides stated their case. The masters gave facts and figures proving that the condition of the trade was such that prices of coal were so low as to make an increase of cost destructive to the trade, and that the competition of other coal fields made it impossible to raise those prices. They showed, too, that the men were getting regular work and very good wages, relative to those paid to workmen in other colonial industries. The delegates of the miners could not gainsay these facts, they could only urge that the men were not getting as much as they thought they were entitled to, and press that the masters to give an increase and then put up the price to cover it. The masters were unable to do the one or the other, but they made an offer to the delegates that if the men did not strike there should be no lowering of wages before the end of 1897, thus ensuring regular work to the men, with a probability of enlarging trade by steady and uninterrupted work; and they further offered to meet the delegates again in conference at the end of the current year, so that the situation might be again reviewed with a view to increasing wages if prices and trade conditions should warrant their doing so. I think, gentlemen, nothing could have been fairer or more considerate to the men than this offer. I am sorry to say it was not accepted, but the men voted by majority for coming out on strike, and they did so soon after the close of the conference at all the leading collieries. A few of the smaller collieries gave way to the men, increased their wages as demanded, and tried to put up the price of coal. After a while it was found that the colliery district to the south of Sydney, where there was no strike, the western districts also continuing at work, and the coal districts of Queensland were able to supply all the pressing wants of consumers, and that prices, which at first took a slight upward turn, came down very soon to the old level. Thus the collieries that had yielded to the men got very little advantage from doing so, and soon had to return to their steps—a very good evidence of the soundness of the masters' contention that prices could not be arbitrarily raised. Well, the strike dragged on. Neither from the Press nor the public was any sympathy shown to the men or their leaders, they were seen to be so hopelessly in the wrong. The men stood to their position as long as they could, but after three months of idleness they began to give way, and to open negotiations for a recommencement of work. During the interval much damage had been done to the trade. The collieries had had to pay all the dead charges of keeping the mines free from water, and underground roads and air-ways in order, while shipping interests had been put to great inconvenience and expense by long detention. Trade had been interrupted, and the work of getting it back would have to be done over again. The masters, therefore, could no longer offer the favourable terms which they were prepared to guarantee if a strike had taken place, but they were willing to re-open the question at a slight reduction on the old terms. The men ultimately fell in with this, and so this unfortunate and most ill-advantage strike came to an end. One cannot help feeling regret at the trouble and suffering which the loss of wages must have caused to the men and their families. I am always sorry to see men misled as they were in this case. They were getting regular work and good, if not large wages, and their leaders made a great mistake in not counselling them to be content, and to wait for the time when the masters might be able to make reasonable profit from the coal trade, and to obtain naturally and legitimately some improvement in the wages. If the result of this strike should teach the men that the masters are in the long run their best friends, it will have done good, and I hope that some approach to that feeling will come out of what has passed. Of the prospects of the future of our trade it is very difficult to speak. We have to do over again a great deal of work that has been done at much trouble and expense in getting Newcastle coal into foreign markets. Shipowners, too, have suffered much from detention of their vessels at Newcastle, and will naturally regard the port with disfavour for a time, and be unwilling to risk another detention there. If the men will work steadily, these difficulties will be overcome. There is no doubt that we have several lines in our favour. We have splendid coal at Newcastle, and this company has some of the best of it in the Lambton and Burwood and Durham pits. There is a very good harbour at Newcastle, and we have all ordinary times vessels can be rapidly loaded, and we have colonies that are yet in their infancy in those industries that promote coal consumption. Added to this, we have capable management of our affairs in Australia. Our prices, too, are now at their lowest, and it is common experience in mercantile affairs that when that is the case any change for the better, and I believe we shall have that experience in the Newcastle coal trade. Depression in trade is not peculiar to ourselves at present. All over the world we see financial trouble, shrinkage of profits, and depletion of values. We have to confront these hard facts, and to look for some relief. It seems to me that the wonderful gold production of last year should bring us relief. The output of 40,000,000 of the previous metal last year compared with the average of 30 years of the present century—viz., 3,500,000 per annum in

monious that there should be no lack of capital for carrying on all legitimate industries and for advancing the commerce of the world. Assuming, then, that our business as coalowners is the providing for a universal, unceasing want, and that we have the fullest means of supplying that want, it needs only time to adjust differences and furnish the required outlet for our production. There is gold enough and to spare to revivify all legitimate trade. What is needed just now is the courage to apply sufficient capital to make our business a commanding one in the market. Notwithstanding, then, the recent strike, we must continue to have confidence in the great value of our coal fields, and in the zeal and ability of our managers. Mr. Croudece tells us that we are very strong in the quantity and quality of our coal, and that he believes in the position of our company for future trade. His long and successful management of our mines entitles him to our continued confidence in his opinion. We told you at our last meeting that our secretary (Mr. F. W. Turner) had been sent out to enquire on the spot into colliery matters. I am glad to say that Mr. Turner received a cordial welcome from our competitors in the trade, and he has exerted himself to bring about a more harmonious working in matters of common interest. I think his action is likely to bear good fruit, and I am quite sure that it was felt to be a great help and satisfaction to our excellent manager (Mr. Croudece) to have him on the spot in the discussion of the many difficult matters that had to be dealt with before and during the recent strike. We are glad to see Mr. Turner with us again to-day, and you will, no doubt, like to hear a few words from him presently upon our affairs. In the meantime I beg to move:—"That the report and accounts of the directors now submitted be received and adopted."

Mr. FREDERICK PETERSON WARD seconded the motion. Mr. FERGUSON said: Gentlemen—I have very little to say on this occasion except to bemoan our bad luck in having our business disturbed, and even stopped altogether, at a critical moment by the strike. It seems to me a very remarkable circumstance that miners, who, as a rule, are a shrewd and intelligent class of men, drawing comfortable wages, are unable to perceive that strikes gradually but certainly are ruining trade and eventually bringing injury on themselves. (Hear, hear.) Instead of their realising this, what do we see? We see these generally shrewd men allowing themselves to be blinded, befuddled and victimised by agitators whose advice is very seldom, indeed, disinterested, and is always baneful. However, I need not pursue this subject, because I cannot hope to convince those who are blind to the undoubted fact that strikes are ruining trade. I will only add that it seems to me that our directors and managers have acted for us as well as they possibly could have acted in our interests, and most unquestionably the managers were very wise indeed in resisting the demands of the men. The result proves this. But even out of the very great evil of a strike some good has come in allowing our manager, Mr. Croudece, to effect certain underground improvements and alterations in Burwood, when mining there had ceased. I do not think I have any question to ask, and I will conclude by saying that, though my pocket might have preferred that the call had been further postponed until we had received dividends, still I cannot but admit the wisdom of calling up the money so as to pay off advances, thus saving interest. I am very glad to see our secretary has returned looking so well, and I hope that by what he has been able to do he will prove still further to us that we have very valuable properties, which in happier times will, I have not the slightest doubt, pay us in the same way as it has done in the years gone by.

Mr. SMALL regretted his inability to adopt the optimistic tone which had characterised the remarks of the last speaker, and was disposed to question the advisability of purchasing the Burwood property at a time when they were able to make so little profit upon the coal from the Lambton pit. Probably the directors themselves now took this view.

Mr. PETERSON WARD: Certainly not. Mr. SMALL, proceeding, suggested that a small committee should be formed to confer with the board as to the position of the company. A loss of £2000 on the year's working might be esteemed a small matter, but there were probably shareholders present who took a different view.

A SHAREHOLDER: You do not seem to be afraid of the competition of the new Sydney Colliery.

The CHAIRMAN: They are not developed yet.

Mr. SMALL asked what expenses were now being incurred at the Durham Colliery.

The CHAIRMAN said the expenses were very little.

Mr. VARLEY was unable to agree that £1900 was a big sum to have lost on the collieries. On the contrary, he thought it a very moderate sum, indeed, having regard to the experiences through which they had passed. The men were completely wrong in supposing that their interests and those of the masters were not identical.

The CHAIRMAN, in answer to these and other questions, said that the company were not at present working their copper property, which they would dispose of when an opportunity presented itself for their doing so. Just now business in Australia was not very brisk, and it was difficult to sell land. The directors would, however, wait their time, and take care that the interests of the company were served in the best possible manner. Mr. SMALL appeared to have a good practical knowledge of the state of affairs in Australia, but the secretary, who had just returned from the colony would, no doubt, be able to give reasons for every point that gentleman had raised.

Mr. F. W. TURNER said: Gentlemen—After the very able and exhaustive speech of our Chairman, it seems hardly necessary that I should go much into detail respecting the work of the past half-year, and I would confine my few remarks more particularly to the work which I undertook when at the request of the board I went out to Australia. At that time matters were looking very black. The masters on the other side were not in agreement, and the men were clamouring for more wages. Such was the state of things when I arrived there. There was also another important feature there—Newcastle Harbour was more full of shipping ready to carry coal than it had ever been before. Now that last fact had been, unfortunately, counted on by the men, and they thought they could bring pressure to bear upon the masters in consequence of their obligation to load these vessels and get them out of the harbour in a certain time, and by that means force from them a rise in wages. When I reached Australia I at once saw that what we had to do, if possible, was to bring about unanimity amongst the masters. Since the agreement terminated a few years ago no other agreement had been entered into, and all the masters had been acting quite independently of each other, both as regards prices and their relations with the men. The men were taking advantage of the fact that the masters were disunited, and they hoped to get their way. I visited all the principal mine managers and mineowners, and I should like to acknowledge through the medium of the London Press the cordial welcome from one and all of them. My communications with Mr. Gregson, the general superintendent of the Australian Agricultural Company, were of a most pleasing character. Naturally I felt a great sympathy with him, seeing

that he represents the only other English company working in the Newcastle district. Of course in trade matters we were competitors, but I was happy to find that this did not in any way interfere with the cordial reception Mr. Gregson gave me, and which I also received from all the others. Finding such to be the case I naturally utilised the advantages I thus gained to impress upon the masters that if we could only hold together and move in one direction we should probably considerably strengthen our position. Shortly afterwards a conference was held, when all the masters spoke with the same voice. This was the first time that such unanimity had been observed for years; and it took the leaders of the men, who were seated on the other side of the table, very much by surprise. If it had been known before that the masters were thus agreed, the fact might have exercised a deterrent influence upon the men. As it was, however, they had gone too far to recede, and notwithstanding the good advice which was given to them by Mr. G. H. Reid, the Premier of New South Wales, the men voted in their lodges for a strike, and a strike took place. I was especially glad to enter into communication with Mr. Reid, the Premier, with whom I had several confidential conversations before the conference. Sitting aside all political considerations, I think Mr. Reid did us excellent service in bringing masters and men together on that occasion. (Applause.) The state of affairs being as I have described it, it was impossible to avoid a fight, and it was equally impossible that we could come out of the fight without a loss. Instead of selling our 100,000 tons of coal in the half-year, we have sold little more than half of that amount. Then all the establishment charges had to go on while the mine was inactive, for it was quite impossible to discharge all the company's officers while the strike continued. I do not, however, hesitate to say that the balance of loss we have made during the strike is extremely small. (Applause.) The effects of the strike will continue for some little time, for we cannot wonder that the masters of the ships became very impatient when they were unable to load and get away; while the shipowners would be continually worrying them to start. The next time we ask the shipowners to load a vessel with coal at Newcastle they will, no doubt, remember the strike. It will take us some time to overcome this prejudice, but we are doing our very best to that end. No doubt we shall eventually get the better of these difficulties and once again see the Newcastle harbour full of shipping. What I have urged upon our competitors—and I use the word in the most friendly spirit—is the necessity of taking care that when another strike is threatened the men may see that the masters are an organised body. Before the strike took place we were beginning to feel our way into markets that we had not been able to touch before. We were beginning to get Australian coal accepted against Japanese coal, and we find that, price for price, Australian coal is generally preferred to the Japanese article. We shall have to do much of this work over again; in fact, we are doing it now. On my way home I called at Samoa and Honolulu, and endeavoured to initiate arrangements at the last mentioned place. I also called at San Francisco, and set myself to find out what was going on, and I think that with energy and perseverance we may be able to regain the trade which, through the unreasonable and unwarrantable action of the men, we have lost for a time. As regards our properties, I may as well say at once that we have some of the very finest of the Australian collieries. As for the Burwood purchase, I am very sorry to differ from my friend, Mr. Small. One of the very best things this company ever did was to buy that colliery. (Applause.) It is only when business is slack that properties of this sort can be purchased on advantageous terms, and I do not hesitate to say that in advising the company to purchase Burwood Mr. Croudece displayed a most sound and excellent judgment. (Applause.) Burwood is a well-situated colliery, and its output works in very well with that from Lambton. As to the colonial management, I will say that you have in Mr. Croudece a very able man indeed. In colliery matters, I think I may say he is the chief authority in the colony. He is, in fact, frequently consulted by Ministers in connection with mining bills. In Mr. Chilcott, the general manager, you have also a very efficient officer. Mr. Turner concluded by saying that the company might perhaps have had a more brilliant, but could hardly have had a more able, staff in the colony, or one more devoted to the interests of the company.

The motion for the adoption of the report and accounts was then put and carried unanimously.

A motion was carried voting 25 guineas to each of the auditors.

A hearty vote of thanks was also given to the staff at home and in the colonies.

The CHAIRMAN, in acknowledging a vote of thanks to himself and the board, took the opportunity of reminding the shareholders that for 32 years they had received dividends averaging over 10 per cent. per annum, and very frequently running up to 20, and they might submit with very good grace to the present temporary depression.

LA CAMPANA MINING COMPANY, LIMITED.

A general meeting of shareholders in La Campana Mining Company was held on Thursday, at Winchester House, Old Broad Street, E.C., for the purpose of hearing an address by the Hon. Brewster Cameron (the Vice-President of the Company) as to the present position and prospects of the Company. Mr. James Martin presided.

The Hon. BREWSTER CAMERON, who was introduced by the Chairman, after a few preliminary remarks said: La Campana Mines are situated in Sonora, Mexico, the most north-westerly state of the Republic, in the mining district of Altar. They are 130 miles south-west of the city of Tucson, Arizona, U.S.A., and 105 miles north-west of Santa Ana, a station on the Sonora division of the Atchison, Topeka and Santa Fe Railroad. The reef is in an isolated range of detached hills or low mountains. The trend of this range is parallel with the coast, 50 miles distant, in about latitude 31 deg. north. The elevation is 2,400 feet above tide, and the climate is famed for its salubrity. The mines owned by La Campana Mining Company are held under freehold titles. They embrace five full claims, each 328 feet (100 metres) square, making a distance of 1,640 feet on the course of the reef. The patents or evidences of title were issued by the Government under the new mining laws, which are conceded to be more favourable than those of any other country to mine owners. The mines are on the great Campana Reef, to which Professor William Phipps Blake has given the name of the Mother Lode of Sonora. He claims that its great size and great extent in length entitle it to this distinction. "It compares favourably," he says, "in size of its croppings, and in its extent with the Mother Lode of California, which has been followed at intervals through several counties." Any shareholders or others who may be interested in these remarks will find in the supplement to the 9th edition of *Encyclopedia Americana*, a record of investigations, discoveries, and achievements that have made Professor Blake's name illustrious as a mining engineer in Europe, Asia, and America. La Campana is not an old mine, nor is it a rich mine, but it is a marvellous property in many respects. Its great value is due to the existence of four favourable conditions that are rarely ever found in one mine. For instance, the reef is a mammoth one, insuring an abundant ore supply for a practically indefinite period. The ore is so remarkably uniform in value that it is not necessary to assay the drifts to enable the miners to follow pay streaks and chutes of ore, the leanest quartz in the mine being rich enough to mill at a good profit. The walls of the reef are so hard and nearly vertical that timbering is un-

necessary, thus saving an enormous expense; and, lastly, there is a wide, soft gouge or selva of clay on both sides of the reef or lode, which greatly reduces the cost of mining. When this soft gouge has been scraped out with a pick, so as to leave a clear opening between the quartz reef and the country rock, then, even where the reef is thickest, it is readily fractured with a single blast of powder. Having quoted a highly favourable report furnished by Professor Blake, the speaker proceeded: The development work in La Campana Mines so far has been directed to the testing of the ground, but has been so conducted as to give valuable openings from which to extract ore. The main shaft has been sunk on the reef to a depth of 215 feet, and three shifts of men are working day and night sinking it to the 500 feet level. Four main levels have been run on the reef from this shaft—viz., the 30 feet, the 65 feet, the 115 feet, and the 165 feet levels. The 65 feet level is 285 feet long. At a point 60 feet from the south end of it a cross-cut tunnel intersects it, and gives an outlet for the ore to the crusher platform of the mill. It is known as Tunnel No. 2. Through it thousands of tons of ore can be carried at minimum cost by gravity to the mill, as shown upon the longitudinal vertical section plan. The total average cost of mining and milling the ore extracted at La Campana, as shown by actual mill runs, covering a period of almost one year, has been 2.72 dols. gold, or 11s. sterling, per ton. The expenses per ton of ore treated in the development stage are, of course, much greater than they will be when the mine is fully equipped with steam hoists and tramways. With proper appliances, when stoping begins, this ore can be mined and milled at a cost not to exceed 3.50 dols. per ton in Mexican silver, or 1.85 dols. in gold, being 7s. 2d. sterling. The earnings of the mill have been used in developing the mine. When the mill was erected the ore reserves in the mine had a gross maximum value of 30,000 dols., or £6,000 sterling. The present ore reserves, estimated upon the most conservative basis, have a gross minimum value of 400,000 dols., or £80,000 sterling. (Applause.) And this enormous development has been paid for out of the earnings of the 10-stamp mill, with barely enough water to run seven days in a month but twelve hours a day. It is obvious that these 10 stamps are wholly inadequate to crush the vast body of ore that is now available. This is also the opinion of Professor Blake. Professor Blake says: "A 50-stamp mill would handle on an average 120 tons daily, or, say, 35,000 tons per annum. The annual product should be 280,000 dols., or £56,000 sterling, two-thirds of which should be profit." General Manning (one of the owners, who resigned the position of United States Surveyor-General for Arizona, to give his entire attention to the business of La Campana Mining Company) has made the following estimate of the net earnings of 50 stamps. He says: "In going over Professor Blake's estimate of the earnings of 50 stamps you will observe that he takes the lowest value that it is possible to get from the mine—viz., 8 dols. gold, or £1 12s. sterling per ton. All mill runs show over 10 dols. gold, or £2 sterling, valuation. And even this value will be appreciably increased by the richer ores that are coming into the lower levels of the mine. According to Professor Blake's estimate, the net earnings of 50 stamps will be two-thirds of 280,000 dols. This would be a profit of 186,666 dols. gold, or £37,333 sterling per annum. As a matter of fact, however, if the estimates were based on the actual average result of La Campana mill runs, the gross product of 35,000 tons of ore would be 350,000 dols., of which at least two-thirds would be profit, or 233,333 dols. gold, or £46,666 sterling per annum." Mr. Cameron subsequently stated his own belief that if a 50-stamp mill were erected on La Campana mine, and the management continued in capable hands, the mine would prove a steady and satisfactory dividend-payer.

A vote of thanks to Mr. Cameron and the Chairman terminated the proceedings.

THE SNAEFELL MINING COMPANY, LIMITED.

The annual meeting of shareholders in the Snaefell Mining Company, Limited, was held at the Villiers' Hotel, Douglas, on Wednesday. Mr. Thomas Fisher, H.K., J.P., presided.

The Secretary read the notice calling the meeting.

The CHAIRMAN said: Gentlemen—Before moving the adoption of the report and the passing of the accounts—which I suppose, as usual, you will take as read—I will, in accordance with my custom, make a few remarks on both. Taking the accounts first, you will notice that our capital account, which, two years ago, was increased to the extent of £6,000, of which £3,000 was issued for carrying on a particular work—to which I will refer later on—and on which work half of this sum was expended last year, and the other half this year; thus absorbing the whole of the amount issued. I hope this capital account will now be closed, and that there will be no necessity to issue any of the balance of £3,000. I do not know that there is much to which to call special attention in the profit and loss account. I may say everything here has been conducted with the greatest care and economy. We have sold, during the year, a little over £500 worth more ore than in the previous year, at a shade higher prices—viz., 10s. per ton more for lead, and 2s. per ton more for blende. The fluctuations during the past year in the prices of the metals, the ores of which we produce, have been: Lead, £11 to £11 17s. 6d., present price £11 15s.; spelter, £14 to £18 15s., present price £17 15s. Coming now to the underground work, you will see, from our Manager's report, that during the past year, as during the past three years, our main efforts have been directed to the pushing forward of our bottom level, the 171, and communicating it with the level above, the 141, this being the work for which the additional capital was raised two years ago. This work has been prosecuted with great energy, and for some months with three shifts of men; although, last year, we drove 11 fathoms more in this level than we have done this year—this is accounted for by the greater hardness of the ground. Now just a few words with respect to the work for which the new capital was raised. It was to drive the bottom level, the 171, to a point 245 fathom north from the shaft, and communicate at this point with the 141 fathom level above. We were very hopeful that when this work was done we would be in good ore ground, as, at this point in the 141, we had sunk a sump, 15 fathom deep, on a lode which produced from 70 to 20 cwt. of ore per fathom. Well, we resumed sinking this sump, and when we got the bottom level sufficiently far advanced below it, we rose from below to meet the men sinking, and—(although the manager does not mention it in his report)—made a very satisfactory "holing." I think very creditable to the manager, if you consider that these 2 levels had been driven from the shaft 490 yards, the 141 on the west branch, and the 171 on the east branch, and 180 feet perpendicular distance between them. I am sorry to say, as we sunk, the ore failed. I am not satisfied that the ore has ceased here, as at this point—I will not say our lode—but the mineralised belt of ground through which we are driving is at least 100 feet wide. So it is easy to understand that, in that width, coming down with an 8 feet sump, we might miss the ore completely; this can only be proved by cross-cutting. Now returning to the bottom level at this point 490 yards north of the shaft, where we expected to find ore, we were disappointed, and have had to drive 120 yards further north before coming into profitable ore ground: this I am glad to say is steadily improving, and as we have 12 fathoms ahead of the present end, a very valuable lode of a massive character, being over 10 feet wide, in a sump now down 15 fathoms we fully expect before this year is out, that the 171 will be in a rich section of ground. We have had slow and disappointing work, we were hoping that our ore ground trended towards the shaft, or that at any rate, we might not have to drive further in the bottom level than directly beneath where we had the ore in the 141, had even this been so, we would have been in ore ground nine months ago, but, as there seems to be no fixed law as regards mineral deposits, we have had to drive 120 yards further north, before getting into ore ground on which a value could be placed. It is possible that some shareholders may be surprised at the great length of time required to accomplish this work on which we have been so long engaged, but if they consider that for this bottom level we have had to sink 180 feet deep, and then drive out considerably more than 600 yards through solid rock, they may form some idea of the magnitude of the task. Now that we have got into ore ground in the bottom level, you may want to know my opinion of it. We have too recently cut into this ore for me to offer a definite opinion upon it. Judging from experience, if that is of any use in mining, I am hopeful that the bottom level will be our best, and for this reason, apparently as we go deeper in

Snaefell our ore improves—for instance the 130 was better than the 115, and the 141 again was richer than the 130; and besides this, there is one favourable feature to which I can call your attention with regard to the bottom level, we have 30 fathoms of whole ground above it. The whole of our ore ground hitherto has been 26 fathoms deep—viz., between the 115 and the 141 fathoms level, which has produced more than £50,000 worth of ore, and I do not think it would be unreasonable to expect, at least, a similar amount from the ground we are now opening up. Our great hope is that we may cut it rich. I trust I have made my statement clear, but if there is any point on which any further information is required, I, or one of the other directors, or Capt. Kewley, will do our best to explain. I now move that the directors', manager's, and auditor's reports be received and adopted, and the statement of accounts be received and passed.

Mr. CAIN seconded the resolution.

Mr. PARKES: It is very satisfactory to hear the statement of the Chairman, that we are likely to get something. We have all along expected it and have been promised it, but the promise has never been carried out. I hope that, as he states himself now, we have met with a ten fathom lode, it will prove to be solid lead as we go down deeper. (Hear, hear.) There has been, in the past, a great deal of wrong direction or shallow judgment in the working of the mine, considering that we have had to drive the 130 fathoms level a distance of about 800 yards, and the 141 fathom level about 926 yards before meeting the lode. That is an enormous distance to drive, and it is an enormous distance to carry the ore, when it is found. There is another thing in which the directors have been mistaken. We were led to believe years ago that the ore in 141 fathoms level would dip towards the shaft. Now we find that the lode dips in an entirely opposite direction. This is the first time that we have had it stated in any report that it dips to the north instead of the south. I remember it being stated here, in Mr. Maley's time, that if we went down to the 141 fathoms level we would centre the ore very nearly in the shaft, and it was said that the ores always dipped that way. I am very sorry to find—as it has been the cause of so much money being spent uselessly—that the lode goes the other way. The driving of these shallow levels has been a mistake. Instead of driving the 141 fathoms level at that time we should have sunk a new shaft down upon the lode, and it would not have cost more than the amount it has cost to drive the 141 fathoms and 171 fathoms levels. From the 115 fathoms level to the 130 fathoms you have only a difference of 15 fathoms—in fact you have only 14 fathoms of backs—and you do not even then gain a lesson from experience, because you went from 130 fathoms to 141 fathoms, and had to drive nearly 1000 yards before you came to the lode. And now you find that you have to drive further still, because the lode dips away northwards. By the balance-sheet I see that £3,000 has been spent, and that we have £2,500 to the debit of the account. How we are to get rid of that for working expenses I do not know, unless this new vein of lead is going to prove rich enough to pay all expenses and pay off the debt, besides making a dividend for the shareholders. There is no one would be more thankful than I, as one of the largest shareholders, if that were the case. I am sure I have expected it, and I have been in want of it many a year. (Hear, hear, and laughter.)

The CHAIRMAN: Just a word, in reply to Mr. Parkes. He mentions that we have made a great mistake in working the upper levels, but he had not looked at this plan. You will see that we only broke into the 115 fathoms when we came to ore some 200 yards north of the shaft. As to the trend of the ore north, and not south, that was not our opinion, it was the opinion of the experts that we had in the mine. We were told the ore turned towards the shaft, and at about 130 fathoms we expected to find ore in the shaft, but were disappointed. But there is really no fixed law as regards ores. The old Cornish saying is perfectly true—"No man can see further than the end of his pick."

The motion was then put, and carried unanimously.

The two retiring directors, Mr. Roney and Mr. Todhunter, were then re-elected, as also was the auditor, Mr. W. J. Craigie.

Mr. PARKES: I beg to propose a vote of thanks to the Chairman. His speech is full of promises that something good will come out of the Snaefell Mine. I hope so, and have every belief in it, though I think, if the position is no better next year, the present company ought to be wound up and a new company formed, and a shaft sunk in the centre of the mine; for driving a level eleven hundred yards as at present, which is upwards of half a mile, is dangerous, and, it has been proved, profitless. I certainly think, if things do not improve, it will be better to wind up the present company and form a new one.

Mr. HANNAY seconded the motion, which was carried.

The CHAIRMAN said: I thank you on my own behalf, and on behalf of my colleagues, for your kind vote of thanks. I can assure you that it stimulates us in the discharge of our duty to feel that our work is appreciated by you. At the same time you must remember that whilst the directors are working for you, they are largely working for themselves, as they between them hold from one-third to a-half of the shares. Personally take a great interest, and it is a pleasure to me, in attending to the work of the mine. I do not spare myself. I go to the mine twenty times or more during the year. We are told that "it is not in mortals to command success, they only can deserve it." I think, if pluck and perseverance deserve success, Snaefell Mining Company ought to be a big success. Gentlemen, I beg to thank you for your vote of thanks to myself and colleagues. (Applause.)

This concluded the proceedings.

NORTH STAR GOLD MINING COY. LTD.

The statutory meeting of the shareholders in the North Star Gold Mining Company Limited was held yesterday, at the Guildhall Tavern, Sir E. T. Gourley, M.P., presiding.

The SECRETARY (Mr. T. F. Smith) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen,—You are no doubt aware this is the statutory meeting, and is not for the purpose of transacting business. All the same, we are desirous of giving you shareholders all the information we can. You are aware the North Star Company purchased the mines, consisting of 113 acres, in the Mount Malcolm and Murchison district, a district about 140 miles north-east of Coolgardie. Between Coolgardie and that district, so far, we have not got any railway communication. The railway is now in course of construction, or will shortly be constructed as far as Menzies, which is about 60 miles from Coolgardie. We purchased this mine with a 5-stamp battery, which was in course of erection, and 200 tons of ore at grass. The battery in question has been erected. We received a telegram from the mine manager the day before yesterday, informing us that the battery had been erected, and that he was about to proceed to the mine for the purpose of starting crushing; so that we hope in a short time we shall be crushing ore, which is already at grass, at something like the rate of 10 or 12 tons per day. The last letter received from the mine manager states that he has 300 tons of ore at grass: that is now more than a month ago, and in all probability the quantity at grass now is something like 350 tons. The manager also writes: "I had better explain to you that every ton brought to grass needs re-handling, consequently no more is hauled up than we are bound to bring up. Besides, winding up by hand, and in small baskets, is far more costly than by steam. We have, as a matter of fact, from 12,000 to 14,000 tons in sight. But 4,500, or, to be strictly accurate according to measurement, 5,016 tons, which we have in one chute above the 86 feet water level ready for stopping. In short, we are 10 months ahead of the mill, and the reserve will be increased monthly until such time as I advise you to increase your machinery." Proceeding, the Chairman remarked: We have sent out another 5-stamp battery, and that battery, with all its appurtenances, is now in Fremantle, and I hope in a short time it will be on the mine. Then we shall be crushing, not with 5, but with 10 stamps. The latest telegram which we have received from the mine manager tells us: "Driving south-east on reef, 86 feet level, reef widening. Value is 2 oz. of gold per ton. Proceeding north to start machinery." Well, I think, as far as we have gone, the prospects of this enterprise are favourable, and we have every chance of obtaining a fair dividend for the monies which we have invested. When we purchased the North Star Mine we did not purchase, as it were, a "pig in a poke." We had in the first instance, the opinions of Mr. Pritchard Morgan and other experts, who were sent out by two Finance Companies for the purpose of

prospecting the whole of the mining districts in Western Australia. Mr. Morgan, who is a very old hand at mining in this country and elsewhere, came to the conclusion that the district in the neighbourhood of Mount Malcolm and Murchison was the very best district for the purpose of obtaining satisfactory results in respect of gold mining. In addition to the opinion of Mr. Morgan and other experts, who chose this property—not on mere hearsay, but who themselves inspected the property personally, we have also before us the opinions of five eminent mining firms, who confirmed all that Mr. Morgan had reported with regard to the property. I must say, as far as the property is concerned, on the part of the promoters and the board, there has been no attempt at dealing with the shares of the company in the way of "pooling." No doubt you are aware a great number of properties, not only in South Africa but in Australia, when placed before the public are afterwards "pooled," thereby enhancing the value of the shares fictitiously—a policy which I don't believe in, because when shares are "pooled" the values placed before the public are, in many instances, erroneous. The promoters who are in the habit of "pooling" their properties alone make large fortunes. As far as we are concerned, it is our intention to let the value of our shares be dependent upon the results of working, and, indeed, as far as we can see, we hope and believe that our property will turn out to be a good. (Applause.)

Replying to a shareholder, the Chairman said that the directors would ask for a quotation on the Stock Exchange in due time, but he considered it better to wait for the result of the crushing, which would give a market value to the shares. As to the date when the crushing would commence, the Chairman added that the mine manager started three days ago for the purpose of starting the mill.

Mr. PADDOON said there was no doubt the crushing on this property would commence before the end of the year, and he thought he was correct in saying no company ever floated in England to acquire a West Australian property would be able to crush so early as their company would. He was perfectly certain that when crushing did commence the shareholders would be more than pleased with the result. Those were his views on the subject, and he was a large shareholder.

Mr. WILLIAMS, in moving a cordial vote of thanks to the Chairman, said the statement they had heard that day was of a practical nature, and, to his mind, satisfactory. He alluded to the good crushings of some of the Australian "home" mines. Wonderful crushings were taking place there, and this being the case the published figures relating to the gold export from West Australia was no criterion of the progress of the industry. It would be far more satisfactory if these "home" crushings were included in the returns published in the English Press.

Mr. ARNUP seconded the motion, which was unanimously passed. The meeting then terminated.

TAITAPU GOLD ESTATES, LIMITED.

A special general meeting of the shareholders in the Taitapu Gold Estates (Limited) was held yesterday, at Winchester House, E.C., Mr. ROLAND HILL presiding, for the purpose of hearing an address by Mr. W. A. Low, who has been managing the company's estate in New Zealand for the past year.

The SECRETARY (Mr. Alex. Parkes) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen,—As announced in the circular we have just had read this, of course, rather an informal meeting, but as our manager has just returned from our property in New Zealand, and has got some very important information to convey to you, we thought it was only fair that we should meet you at the earliest opportunity without waiting for the ordinary general meeting, when the accounts will be submitted, and which will be held in a few months' time. I do not wish to trespass just now on any remarks that may fall from Mr. Low, but I should like to take this opportunity of letting you know what we in London have been doing whilst Mr. Low has been at work for us in New Zealand. In the first instance, we succeeded, when there was really no market in our shares at all, and before any reliable discoveries had been made on our property, in increasing our working capital from £15,000 to £40,000. This still leaves us 25,000 shares in reserve, and if we require more working capital we do not anticipate any difficulty in placing them at a very large premium, although very probably in the first instance we may offer them to our existing shareholders, and as I am presently going to refer to the subsidiary companies which are likely to be formed, that policy, I may say, will also be considered in the allotment of those shares—a preferential allotment will always be given those shareholders in the parent company. We have made very favourable arrangements for certain parties and syndicates to explore the property at their own expense, paying, of course, something for the privilege. I am happy to state these companies have already located a certain number of claims; they have to spend so much monthly in development work, and doubtless before long these properties will blossom into subsidiary companies, in which the Taitapu Gold Estates will have a very large share in, without paying anything for it, or being bound in any way to supply the working capital. (Applause.) As regards our own proprietary claim, known as the Golden Ridge, I believe the chief cause for disaster in mining companies is the erection of expensive machinery before the mine is sufficiently developed, and the value and extent of the property assured. Well, we have made no such mistake. We waited till we had the assurance of our mine manager that he has at least three years' ore in sight for a 20 stamp battery to crush before we order the machinery in London. That machinery is now on its way, and it is to be so erected that although only 20 stamps will be erected, ample provision has been made for the erection of another 20 stamps if it should be necessary. We hope that the machinery and mill site will all be completed some time at the beginning of the New Year, and we shall then be able to commence crushing. When we commence crushing and get satisfactory returns, we propose to float our first subsidiary company, and we shall be greatly disappointed if that flotation alone does not return about the whole of the capital of this company. I should say that Mr. George Beetham, a recently-elected director of the company in the place of the late lamented Colonel Thomson, is now on the way to New Zealand. While there he will visit the property, and do all that he can to further our interests. I intended going out myself this autumn, but felt that it was not necessary for two directors to be on the spot at the same time. However, I hope to visit the property next year, when it is more developed. Now that gold has been discovered it is only a question of time for our territory to become populated, and with the increase of population the value of our agricultural land will also increase in value, and a ready market will be provided for the almost inexhaustible supply of coal and timber we have on our estate. (Applause.)

Mr. W. A. Low said it was a trifle over 12 months ago that he was asked to go to New Zealand to take over the property on behalf of the company, to see that the title was all right, and then having obtained possession of the property to develop it. Proceeding, he referred at length to the formation of the mine, which was known as the Silurian formation. The great bulk of the Victorian gold mines were of the like formation. Indeed, the West Coast of New Zealand produced half the gold of the colony. Most of this gold has been produced from alluvial workings and not from the quartz. He had a report in his hand which he thought it would be interesting for the shareholders to hear. It was written by a gentleman who discovered the quartz silver in the Broken Hill Mine, and from which hundreds of thousands of pounds sterling has been derived. The follow-

ing are extracts from the report which was written by my brother, Mr. T. Low:—"At the request of your general manager here, I beg to hand you my report on the auriferous portion of the Taitapu Estate, and a special report on the reef recently discovered at Golden Ridge, Sydney in April last I have had time to make extensive explorations and prospecting excursions on the Taitapu property, accompanied by one or two old miners well acquainted with the old tracks and old workings on the estate. The great bulk of the auriferous formation on the estate I find lies between the Paturan River and the Big River, which latter is practically the southern boundary of the property. The distance between the two rivers is about 17 miles as the crow flies. The eastern boundary of the auriferous country coincides to a large extent with the water-shed of the Whakamarama range between the rivers; and the western boundary runs at an average distance of about 4 miles from the eastern boundary and almost parallel to it. Within these boundaries is comprised an area of about 43,000 acres, or nearly half of the estate—which extends to the country south of Slaty Creek and Golden Ridge has thoroughly satisfied me that the whole of it, but especially the country forming the western slope of the Whakamarama range down to the foothills is highly auriferous. The lower Silurian slates, which extend everywhere through this section, are almost peculiar to this property. This is the great gold-bearing formation of Victoria, and is one of the most favourable for the existence of quartz reefs bearing gold. I am informed that, with the exception of a small Silurian patch at the extreme south end of the Middle Island at Preservation Inlet, this formation has not been found anywhere else in New Zealand but on Taitapu. Below the foothills of the Whakamarama Range, adjoining the recent sandstone formations, considerable portions of the quartzite cap have been denuded, and auriferous veins crop out at intervals between the Golden Ridge and the south branch of the Anatoli River—a distance of many miles. In my opinion, the main reefs will mostly be found in the Whakamarama range itself, or on the foothills about its base. On a recent occasion, accompanied by Joseph Malone, miner, I traversed the range for many miles, when owing to a dense fog, we were lost in the bush for three days between the head of the Paturan and Anatoli Rivers. In trying to extricate ourselves, we went into country we would not have gone into under ordinary circumstances. I found that the whole country consists of finely laminated slate, which is intersected by a perfect network of most likely looking quartz veins, and as the fog lifted now and again, we could see great masses of quartz piled up above the slate. We saw reefs everywhere, and the whole country there is auriferous. From a quartz miner's point of view, this was the grandest and most interesting sight I ever beheld. The wealth of this portion of the estate it is impossible for me to estimate. In my opinion, the potentialities there are simply incalculable. On every spur, and in every stream and valley descending from this part of the Whakamarama range into the Taitapu Estate, gold-bearing quartz specimens can be found, and nuggets holding quartz have been discovered, weighing from 1 to 9 ounces. The largest have been got at Independent Creek, a tributary of the Anatoli River, and not far from where a promising leader showing fine gold is now being opened up by the Australasian Gold Trust and New Zealand Pioneers Companies. I inspected this find, and my opinion is that it is well worth following up, and that a good reef may be here discovered. The quartz is of the same nature as the quartz in the Golden Ridge Mine. I have repeatedly examined the Morning Star and Old Friday Creek Mines, also the old workings at the Great Northern. Rich leaders, yielding from 1 to over 8 ounces per ton, were worked there some years ago by small parties of men without capital or much experience. From what I have seen, I strongly advise the Taitapu Company to reopen these workings. Specimen Gully, which is near Friday Creek, yielded a large quantity of rich specimens, mostly of a pink-coloured quartz, and much of them were dolled by the alluvial miners, one of whom is reported to have made quite a 'pile' at the business. Having satisfied myself that a rich and extensive reef, or series of reefs, run right through the country for miles south of Golden Ridge reef workings, I put Joseph Malone to prospect for the southern extension of the Golden Ridge reef, and I also went to work myself. The whole country is covered with dense bush and scrub and fern, so it will be apparent that prospecting here requires great patience and continuous observation. The result of my efforts has been already communicated to you by the general manager. Suffice it to say that within a few days we discovered two outcrops on the line of the Golden Ridge reef, and both showing visible gold. The first is situated about 25 chains, and the second nearly 40 chains, south of the main tunnel. We have opened out the last-named, and found the walls and quartz identical with those in the Golden Ridge Mine. These discoveries are of the utmost importance, showing that the Golden Ridge reef continues through the whole length of the Taitapu Proprietary mining block, i.e., for half a mile south of the tunnel; but it also brings this great reef right up to the northern boundary of the two 60 acre blocks or claims pegged off by the Australasian Gold Trust and the New Zealand Pioneers Companies, giving these two companies almost a certainty that their blocks will prove to be enormously valuable. Gold-bearing specimens have been found already lying on their block No. 1, and these must have come from a reef not far distant upon their ground. I consider that these discoveries have added immensely to the value of the Taitapu Gold Estate. As my camp has been close to the Golden Ridge Mine, I have had every opportunity of examining it from day to day or from week to week. You are already aware of the facts connected with the discovery of the rich reef now being developed by the company's mine manager, Mr. Thomas Lisle Adams, and you are also acquainted with the position of the mine, so I will confine myself to giving you my opinion of it, and my reasons for believing in the richness and permanence of the lode. Since the beginning of April I have been in the constant habit of dollying the stone from various parts of the reef, which was at first done on along the hanging wall to a distance of about 200 feet from north to south. The result of hundreds of tons made in this way proved to me that in no part of the reef formation was there less than 3 dwts. of gold to the ton to be found, and this poor stuff was obtained from places where the reef was pinched by intrusions of country rock. These small results were only obtained from two or three sections of no great extent, but generally the crushing stuff yielded an average of about 3 ounces per ton, and in several places very rich bands or seams of ore were met with yielding as high as 50 and even 150 ounces to the ton. These results were from the drive on the hanging wall and from cross cuts made towards the footwall, when the reef was standing up at an angle of 30° to 40°. After the main level had been begun and was driven towards the footwall, I found far richer ore than in the drive on the hanging wall. The reef widened to 8 feet, and sometimes expanded to as much as 14 feet, and at a point where the reef was 7 feet thick I obtained prospects

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LONDON: NOVEMBER 21, 1896.

RHODESIA'S GOLD WEALTH.

NOW that the pacification of Rhodesia approximates to an accomplished fact, investors are once more turning their eyes towards that country as a promising outlet for unapplied capital, and asking whether the multitudinous reports penned about the new colony are, as the legal phrase goes, "true in substance and in fact." The time has come, it would at first sight seem, when a reliable opinion can be formed. A Rhodesian literature big enough to fill a bookcase has sprung into existence during the last few years, while expert opinions, elaborated after residence and travel in the country, are steadily accumulating, until a danger has arisen that the fundamental points may become hopelessly buried beneath a superincumbent mountain of magazine and review articles. There is, moreover, a remarkable

agreement among the views expressed by the experts who have undertaken thus to instruct the uninitiated concerning the possibilities latent in Rhodesia. All writers agree that, regarded as mineralised territory, Rhodesia is distinctly a country of promise, and that the geological conditions foreshadow a great gold-producing career for the country to which Mr. Rhodes has given his name. Mr. PAULING, for instance, in one of the latest pronouncements relating to Rhodesia that have seen the light, attests his "assurance that there is a great mining future before Rhodesia." The whole country, he continues, "is highly mineralised." This is encouraging, but his next pronouncement is even more so. "Quite 2000 shafts have been sunk in seeking for reefs throughout the country, and I can say that in more than half reefs have been struck below the level reached and worked by the ancients, and that in the great majority of cases these reefs contain good gold, and in many cases are very rich." One of the most favourable of the indications noted as bearing upon the mineral character of Rhodesia is certainly the fact that the country is honeycombed with ancient workings. Whatever the genesis of the gift may have been, the miners of early days seem certainly to have been guided by an unerring instinct in detecting promising and valuable gold deposits. Again and again in the Indian gold fields the sagacity with which diggings and drivages have been made has been held up as an absolutely reliable indication of the correct direction to pursue in working a mine. The same has been the case in other parts of the world, and all else being equal, there is no reason why the abundance of ancient workings in Rhodesia should not be an eloquent forecast of the history in store for the colony from which the British South African Company are hoping so much. At the same time a word of caution will not be superfluous to those who regard the auriferous character of the territory in question as firmly established. As yet it is much too early to wax confident in the matter. Actual results are the only reliable credentials for a gold field, and the time has so far been too short and too troubled to admit of these being forthcoming. There is, however, at least no doubt that the country is such as may reasonably be expected to be productive to a considerable extent in gold. The geological formations are said by specialists in such matters to be peculiarly favourable to the view of abundant deposits closely adjacent. The number of claims which have been pegged out—aggregating in the gross a stretch of something like 2000 miles of territory—bespeak in no uncertain manner the decided view of the field taken by the industrial world. Nor is the testimony of a rapidly-built capital town any the less strong in this regard. And it is well that the matter stands thus, for this country is committed in no uncertain manner to the work of making a successful colony out of Rhodesia. Much of the best blood of our nation has spiritedly committed itself to the task of governing and developing the country, and failure would be a heavy price to pay for short-sightedness in the matter. It is true that the prosperity of Rhodesia as a colony does not depend upon a robust gold industry. The land is especially suitable for farming and agricultural pursuits, and these are likely to grow largely in the future. There can, however, from the point of view of material prosperity, be no comparison between ranching and gold mining. Many of the best of our colonies have owed their large measure of stability and wealth to the production of the precious metals, and it is natural that a strong preference should be entertained for the more historical and splendid road to wealth. There is, according to present indications, no great reason to fear that the expectations in this respect will be greatly disappointed, for the eventuality of all the many lines of reef known to exist in Rhodesia turning out to be barren failures is so exceedingly remote as to be almost beyond the confines of practical consideration. Now that matters have simmered down somewhat into a state of partial rest, the great question will be likely to arrive at a provisional settlement, and we shall know whether Rhodesian territory is emphatically golden, or the reverse.

THE EDUCATION OF MINING EXPERTS.

IT is gratifying to ourselves, and, we believe, useful to the mining profession, that so considerable an interest should be awakened by our recent comments upon the relative standing of English and foreign mining engineers. It is simply impossible to contest our main thesis that of late years there has been a strong tendency to supersede experts of English training by others of American or Continental origin. It will be within the memory of our readers that Mr. CECIL RHODES took occasion some months ago to remind the people of the United States that all the mines with which he is connected—in Cape Colony, in the Transvaal, and in Rhodesia—are managed by Americans. The consulting engineers to the Rand Mines and to Messrs. BARNATO are Californians, their salaries being paid for at £5000 a year, and Messrs. Lewis and Marks, the remaining largest controllers of South African mining, have just appointed as their consulting engineer an eminent expert from Colorado. As the result of this practical monopoly of the most brilliant advisory positions by their compatriots, hundreds of young men from California and the other mining States of America have flocked into the Transvaal and Rhodesia, and they have certainly obtained a pre-dominant share of the new positions which have been created by the spread of mining enterprise in that country. It is perfectly true, as Mr. THOMAS says, that Cornish mining men occupy numerous valuable positions throughout the world, but the fact remains that Cornish and other English students have to English the employment offered by an industry carried on by English capital with trained men who are tempted by huge salaries to leave their native countries. The unfortunate decay of mining in Cornwall may make this competition seem less severe than it is by reducing the number of Cornish aspirants for such employments; but, in spite of this disadvantage, we should like to see this country outstrip California as a producer of mining engineers for all parts of the world. At present, we are compelled to

repeat that the tendency seems to be all in the other direction. But if it were not for the competition of foreigners the demand for mining engineers is large enough to justify a considerable expansion of educational facilities, not only in Cornwall, but in other mining districts of England. The question we have propounded is—Is there not a tendency amongst mining financiers and directors to prefer the technical training of America, or the Continent to that of this country?

As to the correctness of this broad contention, there cannot be much doubt. The mining departments of our colleges do not bear the importance which, estimating them by the extent of our national mining investments, they certainly should. It is a bold thing to say in these days of over-crowded professions and multiplied academical qualifications, but it is none the less true that the wide opening afforded for a clever young man in this direction appears to be generally overlooked by parents and guardians. There is certainly no other pursuit in which a scientific training is a necessity, followed by so many absolutely destitute of recognised professional qualifications. In the United States there is a distinctly more advanced feeling in this respect, and in Germany, as in most branches of technical training, they are very much ahead of us. Even in the United States, however, a recent report upon the number of mining students at the American Universities shows that their proportion is only as one to ten when compared with the mechanical engineers. It is considered by Professor SAMUEL B. CHURCH that the annual "output" of mining graduates from the technical colleges is only one-fourth of the number required to keep up the supply of professional men engaged in the home mineral industries, without taking into account the large demand for American mining experts from abroad. He further declares that every mining engineer in the United States has control over an annual wealth production far exceeding that obtained from any other profession. It will be seen from this statement that there are in America three unqualified mining experts to every one who has graduated at a recognised school. Taking the whole scope of British mining enterprise, we should say that the disparity is very much greater, and every shareholder in mining companies is familiar with the difficulties which have to be encountered in obtaining the services of a mining engineer or manager who combines practical experience with a scientific training and the safeguard of an accredited professional responsibility. In some cases mining companies are forced to employ geologists who have hardly ever seen a stamp battery; in others they have had to entrust the development of a mine to a mere mechanic.

With the educational institutions which exist in this country we have, broadly speaking, no fault to find. We desire only that they should be as widely availed of as they deserve to be, and as the wide scope of British mining enterprise justifies. Our scientific institutions are excellent in themselves, but they are not always within the reach of men in practical work, and they are not supplemented by the actual mining experience which forms part of the curriculum of the corresponding establishments on the Continent. Both Mr. LANGRIDGE and Mr. G. B. WALKER agree that for a thorough mining training, both scientific and practical, a young Englishman must be content to go to Germany or France. The cheapness and the excellence of the technical education in those countries is due to the clear-sighted munificence of the State. Our own interests are greater than those of France and Germany combined, and yet our Government does practically nothing for the advancement of this important branch of technical training. Public money could not be more usefully spent than in widening and improving the existing organisation for the teaching of geology, mineralogy, and all the numerous studies embraced in the one word "mining." If France possessed one-half of the interest in mining as this country does the Government would establish a national mining college, as, indeed, it has already done to a certain extent in the Ecole des Mines, and would send 20 of the leading students every year to study mining practice in all parts of the globe. Both France and Germany sent engineers to report on the value of the Witwatersrand gold deposits, while England was allowed to glean its knowledge through the results of wild speculation and ignorant mismanagement. Surely the Government could at least assist the enormous mining enterprise of the country by contributing a moderate sum towards the carrying on of mining education.

ROBINSON'S BANK.

OUR readers will probably not have forgotten the article which we published in December last upon Mr. J. B. ROBINSON'S bank, in which we strongly advised them not to be influenced by the hostile criticisms which a certain section of the Press passed upon it. Those criticisms we conceived to be unjust, for they were, for the most part, animated by enmity to the founder of it rather than to the institution itself. We were almost alone in forming a favourable opinion of the company's future, and now that 12 months have passed by, and the first statutory general meeting has been held, we are particularly gratified in learning that our prediction up to the present has been amply verified. In passing a judgment upon the results of the year, it must be remembered that it has been an exceptionally trying year, and, therefore, must have had an adverse effect upon the company's operations. In face of this the results must be considered as most satisfactory, and must encourage the shareholders to look to the future with much confidence. The cash in hand, with bankers and at branches, amounts to £159,646; deposits with bankers and loans on securities at short notice, £633,905; native gold in transit, £35,414; investments in Consols, £100,000; other investments, £1,633,131; bills of exchange purchased and current at date, £284,368; bills discounted for and advances to customers, £261,173; and bills for collection, £3767. Against

these assets the bank owes about \$483,000, and putting aside the two items, bills of exchange, and bills discounted for and advances to customers, there is about £1,200,000 in hand. The turnover in exchange between Johannesburg and London during the year has been about £2,500,000, and when branches are established at the chief seaports in South Africa there is likely to be a considerable development in this business. The net profits for the year amounted to £431,636, a respectable sum considering the troublous times through which the company has passed. Mr. ROBINSON dwelt at some length upon the present condition and position of the South African mining industry, and his observations echoed what we said in one of our leading articles of last week. It follows, therefore, that his remarks were highly reassuring, and that he takes a sanguine view of the future. The mining industry, he said, was never in a better position than it is to-day. This is an opinion which at once claims our sympathy, and with which we are most willing to agree. In spite of the suspicion with which President KRUGER and the Government are regarded, we cannot but think that there is no foundation for it, for it is unreasonable to conceive that they are resolved—to resort to a favourite and much-abused colloquialism—"to kill the goose that lays the golden eggs." This saying, of course, is peculiarly appropriate to the mining industry, and upon its prosperity the welfare of the Republic is chiefly dependent. At any rate, the events of the past few weeks support this view, for the Government have dealt in a satisfactory manner with the labour and liquor questions, and have resolved not to put an end to Sunday labour. Mr. ROBINSON described as nonsense the idea which has seized a great many that the Transvaal Government intends to break up the Convention and declare its independence. He gives the forcible reply to this that it would be against the welfare of the Republic; that nobody recognised this better than President KRUGER, and that the latter was a very clever man. The conclusion of the speech, which indirectly dealt with the future of the bank, was taken up with the prospects of the principal mines with whose prosperity the company is intimately bound up. What Mr. ROBINSON could say upon this head was also most reassuring, so that, taken altogether, the prospects of the bank seem very encouraging.

HIT OR MISS.

THE interested anticipation with which the shareholders and the general investing public awaited the meeting of the Hit or Miss Proprietary Company was by no means disappointed, although it would be useless to pretend that as much light as could be desired was thrown upon the precise situation of affairs at the company's mines. Two cabled reports from mining experts of standing were communicated to the meeting, but though in general tenour they were of a distinctly favourable character, they did not go any great way towards clearing up matters relating to the hitch which, it now seems fairly certain, did recently occur in the milling operations. This is to be regretted, for the future of the West Australian market is in no small degree concerned with the ultimate position of the Hit or Miss, which has always been looked upon—and so far as we are able to gather from independent and disinterested testimony, justly so—as one of the most promising ventures in the West Australian colony. Not only is the property one of quite unusual extent, but in several parts it has proved itself to be of great richness, while it has even been said that the portions which have been attacked in the past are by no means the best. The most favourable expectations which were formed seemed to be substantiated, as it is said, up to the hitch by the first crushing, which was made late in September, when a milling of 250 tons ran to the truly exceptional average of 3 ounces. From this to 1 ounce per ton is a serious decline, even though it be due to merely mechanical causes; and it is hardly to be wondered at that the cable announcing this small yield should have produced so unfavourable an effect upon the market. Naturally the shareholders are on the tenterhooks to know the actual state of the mine; and with the object of furnishing this information Mr. J. O. OXLEY, one of the directors, is going out to Australia to sift the state of affairs to the bottom. The shareholders can hardly be put too soon into possession of full details as to the actual position in the colony, for there is reason to believe that a good deal of exaggerated and unfounded pessimism has been encouraged and entertained as to the character of the mines. Much of this will probably be modified after the reports cabled by the experts have been thoroughly examined and digested, for in its criticism of the reef formations, and the other essential features of the mine, there is a pleasing concord of opinion. As to its financial position the company is satisfactorily situated. There are no debts outstanding, and there is a substantial balance in hand at the bankers, sufficient to explode the much exploited bogie of reconstruction. Nor does there appear to be any reason for calling into question the judgment exercised in the use made of the money which has been spent in the past upon the development and equipment of the mine. Plant has been provided on the supposition that the company would become productive on a large and regular scale, and nothing at present known in London warrants the supposition that one penny of the funds thus expended will have been wasted. In these days of multifarious rumours and undue financial sensitiveness the interpretation which the market chances to put upon company matters is generally not to be taken without qualification. A company so prominent as the Hit or Miss is peculiarly likely to become a target for their attacks, and the shareholders should remember that the canards circulated do not affect the intrinsic value of the mines in their possession. Nothing has yet become definitely known which could seriously affect the position of the company, and until some such definite knowledge transpires, shareholders would do well not to relinquish the hope that their enterprise will hit rather than miss its mark.

FRENCH SHAREHOLDERS AND ENGLISH DIRECTORS.

A PARISIAN financial paper remarks, in its sprightly way, upon a regrettable phenomenon connected with the management of the English companies in which French shareholders held a considerable interest. There are, it admits, a large number of directorial boards in which Frenchmen have a certain membership. Their numbers, however, never preponderate, and in noting the fact our amiable contemporary almost expresses that the companies are thereby considerably handicapped in their race for wealth. What extraordinary financial phenomenon would result upon the complete Gallicisation of company boards we are not directly told, but probably it would be something overwhelming in its magnitude and character. The answer to our French contemporary is neither difficult to find nor easy to refute. If the French hold a preponderating interest in the shares of any particular company, they have the remedy in their own hands, for the appointment of directors lies immediately with the shareholders, and they can scarcely complain if they do not choose to exercise the prerogative which so clearly belongs to them. In the event of their holding less than a half interest in the capital of a company, it would be clearly unjust for them to demand the election of a majority of directors of their own nationality. The fact that the Parisian shareholders are already so extensively represented on the boards of London companies shows that there is no disposition in Old Broad-street to ignore the legitimate claims of shareholders living over the channel. It may be doubted whether the accession of a big French element to the boards of our large South African companies would act very beneficially to the interests in question. Nowhere in the world can so wide and deep an experience of company affairs be gained as in London, and if the first NAPOLEON had been candidly approached he would probably have admitted in the sweet light of after dinner reason that his arch enemies, though an industrial nation, were far ahead of his own people in the more peaceful branches of activity. That sound capacity for business which training and habit have given to the English nation goes for a good deal in company affairs, and even the highly imaginative writers of the Parisian boulevards—who gravely announced awhile back that a party of English sportsmen had started out to shoot French soldiers over the Madagascar covers, and who were foolish enough to attribute the savage murder of the Marquis DE MORNS to English gold—would hardly go the length of suggesting that English directors would wreck their own property in order to injure at the same time the material interests of Parisian shareholders.

A PROMISING MINE.

As the days and weeks go round the evidence is becoming more and more clear that British Columbia is a gold field destined to attract, at an early moment, the enterprising English investor. It is now quite a superfluous task to keep on insisting upon the remarkable richness of this coming gold field, for this is quickly becoming a matter of general conviction. Throughout the colony there are many exceedingly rich and promising mines at work, respecting one of which we have during the week received private information from a most reliable source. The name of it is the Gordon Cache Mine, situated at Lillooet, and it was in connection with this mine that we published some weeks ago, a cable announcing a very rich strike. Since then a company has been formed, with \$500,000 capital, and already a great deal of development has been done. A drift of 55 feet has been run in on the ledge, which is 18 feet wide, and stripped for 400 feet, showing good ore throughout. This is one of the parallel veins of the company's claims. The quartz is free milling, with a great deal of gold visible, and a promising feature is that with depth this has held its own, and the conservative estimates of ore in sight show up a gross value of precious metal amounting to somewhere about £500,000. It is not supposed that mining and milling will cost more than 15s. per ton, and as the average value of the stone is likely to run from 2½ ounces to 3 ounces, it will readily be perceived that there is plenty of margin for profit. A 10-stamp battery is under construction, and crushing will commence within two or three months. The tailings will be treated by the MacArthur-Forrest cyanide process, which has already treated the ore with success. Mr. J. M. MACKINNON, one of the managing directors of the company, has just arrived in London with a collection of specimens from these mines, which he intends to exhibit both in this city and in Glasgow. We have had the pleasure of inspecting these specimens, and we can assure our readers that they are some of the finest we have ever seen. Should ore of this great richness exist throughout the mine, then it will be one of the greatest mines the world has ever seen. But this is not to be expected, though, naturally, Mr. MACKINNON is very sanguine of it. In our experience we have gazed upon hundreds of samples equally as rich, and many of the mines have turned out quite average affairs. On the other hand, others have fulfilled the expectations founded upon early evidences, and we sincerely hope the Gordon Cache Mine will be one of this number.

HANNAN'S BROWNHILL AND GREAT FINGALL REEFS.

BOTH these companies, which have an intimate relation with each other, have of late been the subjects of much adverse criticism, rumours having been spread abroad greatly detrimental to their interests. It is not so very long ago that both these properties were regarded as amongst the richest and most promising in West Australia, but a remarkable change has come over the one, for so irregular and poor have the reefs become in depth, that it has been found necessary to abandon the mine and endeavour to find another of greater promise. This is the short and inglorious history of the Great Fingall Reefs, and it is no

surprising that it should heighten the general distrust in West Australia. It is too melancholy a subject to dwell at length upon the history of this unfortunate mine. It is concisely told in the report which the directors of the company have just issued, and any further expenditure of words would be waste of time and energy. Suffice it to say that the directors have entered into negotiations with the original promoters of the company, who have come to its assistance, and have made an offer of a property which the directors say is well-proved, and, with a view of preventing any further disappointment, have agreed to give possession of the property for six months. If, at the end of that period, the directors are not thoroughly satisfied as to its value, the promoters are prepared to take it back and provide some other approved property. Such are the hopes held out to the shareholders of the Great Fingall Reefs, and it is to be sincerely hoped that they will be fortunate enough to find a property whose history will be very different from that of the one in which they have been so sadly disappointed. On the other hand, Hannan's Brownhill has given much more satisfaction, though, in the present state of affairs, there is much that has caused the shareholders much disquietude. For instance, we learn that the machinery which the directors sent out was not very successful in treating the ore, but happily there is very little grounds for discouragement in this, as there is every promise that when the necessary alterations have been made it will be able to treat the ore to satisfaction. The company's engineers have made a very favourable report upon the process which the directors have adopted, and on their opinion the shareholders may place much confidence. The report, however, confirms the rumour that the company is £25,000 in debt, a state of things which has naturally caused much heart-burning amongst the shareholders. The directors abstain from entering into the details of this borrowing and expenditure, but promise to do so at the forthcoming meeting. This meeting will, no doubt, be a most interesting one, and we shall be anxious to see what kind of attitude the shareholders will adopt.

BALAGHAT MYSORE.

The shareholders, at the meeting on Tuesday, decided to re-construct: no other policy was open to them. Re-construction has not taken them by surprise, for it was foreshadowed and shown to be inevitable some months ago. There is no reason whatever why the property should not turn out an exceedingly rich one. Present appearances favour this view of its future, not the least encouraging of which is the great improvement which has taken place in the neighbouring Coromandel mine. Up to the time operations were discontinued, the old mine was doing extremely well, inasmuch as it was returning between 700 ounces and 850 ounces of gold per month. The speech of Mr. JOHN TAYLOR should give great encouragement to the shareholders, for he was able to put before them ample evidence of the promising appearance of the mine. He sees no reason whatever—and no one is likely to disagree with him—why similar returns should not be made in the future, when the water has been taken out and the levels have been put in order. The fact that the workings in the Coromandel mine have been carried right up to the boundary of the Balaghat property, and that in several of the levels a good pay-shoot has been proved is very encouraging. It points to the conclusion, that in the deeper levels of the Balaghat mine something rich and payable is likely to be found. Hence, as Mr. TAYLOR pointed out, the importance of unwatering the old mine, and driving at an increased depth. Nothing has been more conspicuous of late than the pronounced success which has attended Indian gold mining. The leading mines on the Colar gold field, during the present year, been wonderfully successful, a fact which points to the conclusion—a conclusion which we foreshadowed years ago, when everybody was unanimous in condemning the field—that it had an assured future; and there are many things less impossible than that the Balaghat Mysore mine will, in time, be worthy of a position in the very front rank.

GOOD NEWS FROM AUSTRALIA.

It is of excellent augury for the mining industry of the Colonies, and for the development of business with England in connexion therewith, to find that there is a decided improvement springing up with regard to Australia. A few indications of the satisfactory condition of affairs there, as revealed by the latest mails, we may instructively point out. Commercial advices from Australia and New Zealand down to the end of September were received in England this week, which state that the business position in Sidney was decidedly more encouraging. There has been an expansion of trade in most of the leading lines; and, where prices have not actually advanced, considerable firmness is experienced. Among the advances already announced are 2s. 6d. per ton in fencing wire, and 5d. in some other descriptions of wire. Bar, rod, hoop, and sheet iron are very firm, at last month's selling prices, and finished hardware is in better demand. Cement is firm at 8s. 9d. per cask. The timber market for the moment is quiet, but some large consignments of sawn hard wood for street paving have recently been shipped to England. Business in Melbourne is reported steady, alike on country and West Australian account. As to the latter, however, some apprehension exists with regard to the probable effect of the recent advance in the freights of international steamers. Arrangements are in progress for the purchase by the Colonial Government of the Great Southern Railway, and the terms are practically settled. Kalgoorlie, having obtained its much-needed water supply, is now about to have its streets lighted by electricity. From the first ultimo, West Australian Customs' duties were repealed in regard to a number of classes of material and goods useful to Colonial manufacturers.

KOMATA REEFS AND KEY OF KOMATA.

The Komata Reefs is looked upon by all who have made an intimate study of New Zealand mining as one of the most promising mines in this extremely rich gold-field. In the first place, it is situated in one of the richest districts of the colony,

and is surrounded by some of the wealthiest mines, chief of which is the celebrated Hauraki, the returns from which have placed it amongst the leading gold mines of the world. So far, of course, no very great amount of work has been done upon the Komata Reefs, but the development has proceeded sufficiently far to demonstrate the richness of the property. The small capital of £50,000 is in these days of enormous capitals, greatly in the company's favour, and therefore no extraordinary profits need be earned to enable respectable dividends to be distributed. The shareholders thus have every assurance to look forward to a prosperous future and to satisfactory returns upon the small capital they have invested. Those who attended the meeting on Wednesday last had the privilege and pleasure to listen to one of the most eminent experts of the day, in the person of Captain Argall, who was able to speak very highly of the property, and to give very forcible evidence of its promising nature and appearance. That speech, which we give in full elsewhere, we would strongly advise every shareholder and investor to read, for we think they are likely to be amply repaid for the trouble. At the beginning of the week was held the first ordinary general meeting of the Key of Komata, a mine in close proximity to the Komata Reefs, a situation which must at once be said to be greatly in its favour. Captain Argall was also present at the meeting of this company, and delivered a very interesting and encouraging speech, which will have the effect of strengthening the confidence of the shareholders in the future of the mine.

THE MINING MARKET.

FRIDAY EVENING.

After a semi panic, the Markets close with a good recovery and more cheerful tone.

THE South African market has been the scene of plenty of excitement this week. It is a long time since such a conflict of report and opinion has been arrayed within the market. Opening strong on Saturday morning on the publication of an interview with President Kruger, which was considered to dispose definitely of the various sensational rumours on the indemnity question, the general market kept good until midday, when a determined attack was levelled against Goldfields. This naturally weakened the general market, though Chartered remained firm, the prospects of the new issue being favourably regarded. West Australians were a dull market, whilst New Zealanders were the only firm group in the Miscellaneous section. On Monday the tone was very unsatisfactory, but actual losses were not large. Whilst one party was at work doing its best to depress quotations, another was quietly picking up shares on each relapse to cover bear sales of longer standing. And so at the end of the day things were not materially altered, but the tone was dispirited and eminently unsatisfactory. On Tuesday the market was unequivocally bad, and for the first time some indication was forthcoming as to the seat of the trouble. Wednesday was the date of the Special Settlements in the new Transvaal Gold Estates Company and Johannesburg Investments, and as dealings for the former date back for several months, there was naturally a big account to settle involving heavy differences. It soon transpired that one or two jobbers were in difficulties. It goes without saying that the extent of the mischief was exaggerated to astounding proportions, but throughout Tuesday every share that was saleable was offered down fraction by fraction until it appeared as though the market had no bottom. On Wednesday morning matters reached a climax when it was known that two large accounts had been closed up. The members in question were both reputed to have been possessed of large means after the boom of 1895, but their weakness of recent times was known to other men in the market, which to some extent explains the mysterious selling that has been going on for some time past. On Wednesday afternoon it was currently reported that failure would be averted in each of these cases, and throughout Thursday, on that assumption, a better tone prevailed. During the last hour something very like a bear stampede took place, and prices rose sharply all round. West Australians also assumed a firmness in which they had long been lacking, and, indeed, the whole aspect of the market was changed. Contrary to expectations, Mr. Percy Leger Smith, one of the two members referred to above, was "hammered" this morning, but so far from this having an adverse effect upon the market, it was generally regarded as clearing the atmosphere, and the bears began to scramble in with renewed vigour. They are bidding for everything in the Street to-night, and from the look of things, the differences to be met after the making-up on Monday will be comparatively insignificant. The shares of several of the well-established West Australian companies were extensively brought to-day at advancing prices, whilst even the Miscellaneous market was stronger than it has been for some time. There is no doubt that a large bear account exists amongst the professionals, and their efforts to buy back the shares which they have been so anxious to sell may result in a further smart rally provided that no fresh troubles come to light.

South Africans.

The feature of the week is, of course, the Settlement in Transvaal Gold Estates, which were made up at 4½. After the account of the defaulter was taken over, bears began to cover their sales with the result that the price to-night is 5½. Another Special Settlement was in Johannesburg Consolidated Investment, the shares of which have now replaced those of the Barnato Bank. Early on Thursday morning Johnny's were no better than 2, but they have recovered strongly to-day, and are only ½ to the bad at 2½. Goldfields Deferred have been subjected to the most determined attack. They changed hands as low as 7½ on Wednesday, and the bears did not hesitate to predict a break to 5. When talk of this sort is indulged in, it is generally about time to buy—a view which was taken by some of the bigger firms with the result that the shares are over 8½ in the Street to-night. The debentures are unchanged at 108 after a temporary dip. Gold Trusts were 5½ on Tuesday, and close ½ lower at 5½, whilst Goldfields Deep show a net loss of ½ at 6½, after being 6½. East Rands have been very viciously attacked avowedly by way of recording the general disgust at the scheme for benefiting the H.F. Syndicate. One of the French papers went so far as to say that a Paris Bank had brought pressure to bear to ensure the postponement or abandonment of the scheme, and at times it has been asserted that the whole proposal will stand over. The shares were under 3½ when things were at their worst, but they have rallied to over 4, which leaves them with a loss of nearly half a point. Anglo-French Exploration are unchanged at 3½, but Angles have lost ½ at 3½. After going below 22 Rand mines are unchanged at 23½. Deep Levels generally are harder, the Pretoria correspondent of

the Daily Telegraph having cabled a vague announcement about Street to-night the names of Barnato stocks were prominent, and many of these show an appreciable improvement as compared with quotations ruling in the middle of the week. Barnato Consols and Buffelsdoorn have both recovered to 1½, and Cressus are over 1. Glencairn have risen to 1½ to 2½, New Primrose ½ to 4½, and Rietfontein ½ to 2½. The Robinson stocks have been supported since the turn came, notably Randfonteins, which were down to 1½ on Wednesday morning, but close ½ up at 2½. The speech of Mr. name ought to have been regarded as satisfactory, but it was delivered at the wrong moment to have the desired effect. The bank shares are finally unaltered at 4½, with Langlaagte ½ up at 4½. The Eckstein group is irregular at the finish, but all down the lines prices show a good recovery from the lowest. Ferreira have risen ½ to 18½, whilst Citys at 3½, Nigel at 2½, and Simmer and Jack at 4½, are all on last week's marks. On the other hand, Henry Nourse at 6½, Heriot at 8½, and Salisbury at 3 are a ½ lower. Wommers have fallen ½ to 7½, Village Main Reef ½ to 4½, Modders ½ to 4½, after being 3½, Jumpers ½ to 4½, and Jubilee ½ to 7½. Meyer and Charlton have declined ½ to 4½, and Jubilee ½ to 4½. Kleinfontein ½ to 2½, Durban-Roodepoort ½ to 6½, Crown Reef ½ to 10½, Van Ryn ½ to 3½, and Woluter ½ to 4½. As we have frequently stated before, outside these leading stocks quotations are so nominal as to be delusive. Men who hold shares in the general list, when they fear a fall, and find they cannot get out of their holdings, are driven to selling bears of Goldfields and East Rands. Chartered have been fairly steady throughout the week in the face of many disturbing rumours. It seems to be generally understood now that the directors will resist any claim for indemnity by the Transvaal Government, whilst the assurance is emphatically given that under no circumstances will any of the proceeds of the new issue be devoted to such a payment. Reassured by this announcement shareholders have been sending in their applications freely, and the success of the new issue is said to be secure. The old shares are ½ down on balance at 2½. Land and Finance shares have been little dealt in during the excitement, so that not much reliance can be placed in quotations. Diamond shares have been good to-day, after some indecision in the middle of the week. Jagers have risen ½ to 10½, whilst De Beers are unchanged at 23½, after being appreciably lower.

West Australians.

This section calls for little comment this week, since in the majority of shares business has been impracticable. The publication of a splendid report by the directors of the Exploring and Finance Company, however, encouraged buyers to come to the support of the market, with the result that specialties show a significant improvement as compared with the prices in the middle of the week. Exploring and Finance and Globes are both the turn better at 4½, after being below 3½. Mainland Consols recovered to 1½, which is still ½ below last week's price. During the slump Goldfields were sold down to 4½, but these have recovered to 5½, which is still ½ down. Hampton Plains are ½ lower at 3½, after going to 2½. Great Boulders are ½ down at 6½, and Brownhills are just below last week's price at 3½, after being very flat. Lake Views are nearly £1 above the worst at 6½. The feature of the week is the jump in Boulder Main Reef, which are ½ higher at 1½. Associated dipped to 1½, but close only ½ down at 2½, with Southern a like amount lower at 1½, and Lake View South ½ down at 1½. Ramag Syndicates have recovered to 1½, and Hit or Miss are steady at 1½. Lady Shentons are rather better at 2. It is not unreasonable to expect a further improvement in many of the before-mentioned shares, but the unsatisfactory point about this market is that in two-thirds of the concerns which attracted attention a year ago, it is now impossible to deal at all.

Miscellaneous.

The reported scheme for splitting Rio Tinto keeps these shares in high favour with speculators, though at the close they are only ½ better at 25½. Anacondas are ½ down at 6½, and Copiapo have lost ½ at 2. Wentworths are ½ down at 3½, and Aladdins have lost 10s. at 2. Indian shares have been fairly well supported, the last prices being Champion Reef and Mysore 7½, Coromandel 2½, Ooregum 2½, and Nundydroog 3½. A good tone has been infused into the New Zealand Group in sympathy with a report in Taitapu to 3½, a gain of ½, on the strength of a satisfactory meeting.

STOCK EXCHANGE SETTLING DAYS.

Consols.
Tuesday, December 1.
MINING MAKING-UP DAYS:
Monday, November 25. | Tuesday, December 8.
MINING NAME DAYS:
Tuesday, November 24. | Wednesday, December 9.
ACCOUNT DAYS:
Thursday, November 26. | Friday, December 11.

DIARY.

Monday, November 23
New Zealand Minerals, Cannon Street Hotel, 11.30.
Mines Possession, Winchester House, 12.
Victorian Gold Estates, Winchester House, 12.
Willoughby's Consolidated, Cannon Street Hotel, 12.
Tuesday, November 24
Exploring and Gold Mining Association, Dashwood Ho., 12.
Sulphide Corporation, Cannon Street Hotel, 12.
Wednesday, November 25
Oceana Transvaal, Cannon Street Hotel, 12.
Wassau (Gold Coast), 147, Cannon Street, 12.
New Welsh Slate, Winchester House, 12.30.
Princess Estate, Johannesburg.
Thursday, November 26
Sam's Wealth of Nations and Gold Exploration, Cannon Street Hotel, 11.
Abbott's Gold Mine, Cannon Street Hotel, 11.30.
Agency, Land, and Finance Corporation of Western Australia, Winchester House, 12.
Great Fingall Reefs, Winchester House, 12.
Charterland Gold Fields, Cannon Street Hotel, 2.30.
Anglo-German Exploration, Winchester House, 8.
Big Blow, Cannon Street Hotel, 3.
Cardiff Castle, Winchester House, 3.
Friday, November 27
Hannan's Brownhill, Winchester House, 11.
Blagroves Freehold, Winchester House, 12.
Kapanga, Winchester House, 1.
Transvaal Mortgage, Cannon Street Hotel, 2.
West Australian (Gold District) Trading, Winchester House, 12.
Saturday, November 28
Brownhill Great Southern, Winchester House, 12.
Expanded Metal, Winchester House, 12.

DIRECT METHOD CONSIDERED AS THE FUTURE METALLURGICAL TREATMENT OF COPPER ORES, ARGENTIFEROUS OR OTHERWISE.

By CHRISTOPHER JAMES.

(Continued from page 1445.)

It is the main object of this paper to show that the roaster process still results in a very great loss of both metals, and is in fact only a little better in that respect than bessemerising, and this brings us to the only known method of producing copper from copper matte without the slightest loss of either copper or silver, namely—

The "Direct" Method.

This is a process for producing refined copper from white metal without the usual roasting operation. It was patented Nov. 19, 1890, by T. D. Nicolls, Christopher James, and the Cape Copper Co. Ltd., and it was forthwith put into operation at the Cape Copper Co.'s Works, at Briton Ferry, where it has worked continuously ever since. The method is based on the reaction which occurs between oxide of copper and sulphide of copper when raised to a sufficiently high temperature in contact with one another, whereby the sulphur and oxygen pass off as gaseous sulphur dioxide, and the copper is left in the metallic state; the same reaction, in fact, which takes place in the roaster itself. But, whereas, in the roaster, the oxide of copper is being formed *pari passu* with its reaction on the bath of molten sulphide, as described in previous pages, in the direct method the requisite amount of oxide of copper to determine the reduction of the whole of the charge has been previously formed, and is present in intimate admixture with the sulphide of copper at the moment when the temperature necessary to effect the reaction has been reached.

The white metal, say a regulus between 70 and 80 per cent. of copper, is first crushed so as to pass through a sieve with holes $\frac{3}{8}$ inch in diameter, then divided into two portions of about one-third and two-thirds respectively. The two-thirds portion is then calcined, that is, heated in contact with air at a point below fusion, whereby the sulphide of copper is converted into oxide of copper, the sulphur escaping as sulphur dioxide. And this calcined portion is afterwards mixed with the remaining one-third portion, and the mixture charged into a refinery furnace.

Now the point is this: during calcination the oxidation is effected below the temperature of fusion of the regulus, and during roasting the oxidation is effected above the temperature of fusion of the regulus.

Again, during oxidation intermediate products—compounds of copper—are formed, which are volatile at the temperature of roasting, but are not so at the temperature of calcining. Special attention is invited to this point, and presently a series of experiments will be described which prove that no loss by volatilisation occurs during calcining, while it is well known that during roasting considerable loss of metal takes place through volatilisation. In practice the calcination may be effected in any ordinary form of furnace, but the author prefers to use an American automatic calciner.

The degree to which the calcination is carried is also a matter of choice to a great extent. For if the operation be arrested before perfect oxidation has taken place, we have only to reduce the proportion of uncalcined metal in the mixture. This entails the expense of calcining a larger quantity of white metal, but then on the other hand it is found that the time occupied in pushing the calcination beyond a certain point is proportionately greater, and consequently more costly, than that occupied in bringing the calcination up to that point. The demands of economy seem to be met by calcining two-thirds of the total quantity of white metal, as mentioned above, although if the calcination were more perfect, less than two-thirds need be calcined, and the calcination is more perfect in the automatic form than in the ordinary form of calciner.

When the mixture is being made it is advisable to ascertain with some degree of precision whether the proportions of oxygen and sulphur present in the mixture are such as to use up the whole of each to form sulphur dioxide when the reaction takes place; or at any rate to leave only a small percentage of sulphur behind to be got rid of by the subsequent refining stage of the operation.

This may be done by melting a sample of the mixture in a Cornish crucible. A button of copper will be thus obtained from the appearance of which it can be seen whether the proportions are correct or not. Any ordinary intelligent man can learn how to mix the charges after a trial or two.

If too much uncalcined regulus has been added the button will be solid and flat, covered more or less with regulus, and if too much calcined regulus has been added the button will be covered with an oxide of copper slag.

When the furnace is filled the heat is driven on as fast as possible, and as soon as the requisite temperature has been reached, the reaction commences; of course the surface gets hot first, and some pools of metallic copper are soon formed, which assist in communicating the heat to the interior of the charge in consequence of the better conductivity of copper. Gradually the reaction will proceed throughout the charge, and heavy volumes of sulphur dioxide be rapidly evolved. This sulphur dioxide is eminently adapted for the manufacture of sulphuric acid, as it is quite free from atmospheric nitrogen, and the products of combustion from the grate can easily be diverted into another channel while this reaction is going on; for once the reaction is started it develops its own heat and for the time no assistance from the fire is needed.

The reaction being over the fire is again forced till the copper is brought to perfect fusion. The slag is now skimmed off, and the usual refining operation is commenced, precisely as if the furnace had been charged with blister or pimple copper in the ordinary way. The time occupied in thus preparing the bath of molten copper, and its subsequent refining is no more than that needed by the ordinary operation of refining a charge of blister copper.

The only variation required by this process is that in order to produce an equivalent weight of copper per charge the furnace must be a little larger than the ordinary refinery, as this charge of mixture occupies more room than in the charge of blister copper required to give the same amount of refined copper, although no more fuel will be needed than for the smaller furnace.

When the process was first introduced at the Cape Copper Company's works it was a complete success right away—no difficulty was experienced with the men, nor in any other direction.

But the men expecting to get the usual amount of slag derived from roasting were apt to pull out portions of the half-melted copper to satisfy their expectation. They soon found, however, that no great quantity of slag was really produced, and they became convinced of the uselessness of expecting slag when none was forthcoming.

Over 50,000 tons of best selected copper have been made since the method was first adopted at these works, and not a single complaint has been received.

The economy of the process is set forth in the following certificates from the Cape Copper Company. The first, under date August 30, 1892, says: "The 'Direct' refining process, patented by T. D. Nicolls, Christopher James, and the Cape Copper Co. Limited, has been working in these works for the last 20 months, and has given complete satisfaction. We have made over 10,000 tons of copper by this method without a single complaint, and it has worked from the very first trial without trouble or drawback. We consider it to be an entirely new process. A comparison of the two methods (the roasting for the 12 months ending August 31, 1890, and the direct during the first eight months, working to the end of stocktaking, August 31, 1891) shows that by the old roasting method 100 tons of white metal yielded 51 tons ingot copper, and the slags produced by the 'direct' method were very small compared with those from the roasting. The cost of turning white metal into copper is 13s. 9d. in favour of the 'direct' method, whilst the cost of making the white metal has by the roasting method to be divided over 51 tons copper, and by the 'direct' method over 63.4 tons copper."

And again, under date October 23, 1893, they write: "The books of these works show the following results of the working of this process from Sept. 3, 1893, to Oct. 20, 1893, per 100 tons of white metal treated:—

74 tons calcined,
26 " raw,
Copper produced 71.5 tons ingots,
Slags 15.6 "

We have up to now made nearly 20,000 tons copper by this process of the same uniform good quality, not one complaint having been received of copper made by this method."

Now, the fact that 100 tons of white metal can be made to yield 68 tons, and even, in another case, 71 tons, of ingots by this method, whereas the roasting method only yielded 51 tons of ingots from the same quantity of white metal, is in itself a source of economy, since it must cost less per ton of copper in the making of the white metal when the direct method is used than when the roasting method is used. Thus, suppose it costs £4 per ton to make white metal, then to make 100 tons will cost £400. This cost distributed over the copper made will, when the roaster process is used, giving only 51 tons ingots, be about £7 16s. per ton, but when the direct method is used, giving 68 tons of ingots (the minimum figure), it will only be about £5 17s. 6d. per ton, or over 24 per cent. in favour of the direct method.

In addition to this, the cost of turning the white metal into copper is 13s. 9d. per ton less by the direct method than by the old way.

So much for the economy of the process in cost of treating. But a still more valuable economy is to be found in the fact that no copper is lost by the process, and when argentiferous matte is used instead of ordinary white metal, the still more valuable saving of all the precious metal as well. The use of the process for such mattes has been further protected by the author, in a patent dated June 1896.

It is well known that when matte or regulus is roasted into copper, a serious loss of copper takes place by volatilisation, quite from 2 to 3 per cent., and when such matte or regulus contains silver the loss is still more serious, amounting to from 5 to 8 per cent. of the silver present.

It has, however, been a question with many metallurgists whether some of the losses may not be traced to calcination, but the author is perfectly confident that no loss whatever occurs during calcination, nor, indeed, during any process of concentration of matte or regulus, up to the point when metallic copper begins to be formed. In other words, until white metal is further concentrated, we may rest assured that all our metals are in hand.

Very careful metal accounts have been kept for years, and they all confirm this statement.

Up to some years ago the author thought, with others, that calcination entailed a loss of silver, particularly when the material contained arsenic, antimony, and zinc as impurities.

The usual method adopted to determine the amount of such loss in any particular case, was to assay a calcined and an uncalcined portion, and compare the results. All works' chemists will agree that the calcined portion will always give a lower result than the uncalcined portion. It is, indeed, customary to keep such results recorded for reference.

Not being satisfied in his own mind that these assays told the truth, knowing, for instance, that kernel roasting gives no loss of silver, the author examined the pan used for the laboratory calcination, and although to the naked eye it appeared quite clean, yet with the microscope lustrous scales were detected adhering to the surface of the clay, and this led to the following crucial experiments.

First the calcination was conducted in a scorifier instead of the usual calcination pan, and then transferred to another scorifier and assayed. The result showed the usual loss. The scorifier used for the calcination, although apparently quite clean, had a blank assay made in it, and upon cupelling this assay, a button of silver was obtained, which exactly made up the loss first found.

Then a portion was calcined in a scorifier, and the same scorifier used to complete the assay; now no loss was found, the assay of the calcined portion agreeing with the assay of the uncalcined portion. These experiments were repeated hundreds of times on various classes of ores, all giving similar results.

Here is appended, as an example, the figures obtained from two classes of the Huanchaca ore, a particularly zincy ore, represented by the following two analyses:—

	High Grade, Per Cent.	Low Grade, Per Cent.
Insoluble residue	31.00	30.70
Sulphur	28.12	24.50
Iron	14.91	15.00
Zinc	19.41	21.50
Lead	6.28	6.28
Copper	4.38	2.00
Silver	1.23	0.45

Arsenic and antimony together from 2 to 4 per cent.
The following are the results of experiments made:—

High Grade Ore.		Oz.
Assay of raw ore, average of 8 assays ..	..	2575
Calcined in scorifier and assayed in same, average of 6 assays ..	..	2573
Calcined in scorifier and assayed in another scorifier ..	..	2538
Blank assay in scorifier used for calcination ..	..	35
Low Grade Ore.	..	2573
Assay of raw ore ..	..	379
Calcined in scorifier and assayed in same ..	..	378
Calcined in one scorifier and assayed in another ..	..	373
Blank assay in scorifier used for calcination ..	..	5
	..	378

(To be continued.)

PUBLICATIONS RECEIVED.

- "The Architectural Review." No. 1. Vol. I.
- "Catalogue of Instruments." (W. F. Stanley, Optician, Holborn, W.C.)
- "Mathieson's Monthly Mining Handbook." Mid-October. 1s. (F. C. Mathieson and Sons, 16, Copthall Avenue, E.C.)
- "Elementary Engineering." A manual for young marine engineers and apprentices. By John Sherren Brewer. Third Edition. 1s. 6d. (London: Crosby Lockwood and Son.)
- "The Model Locomotive Engineer, Fireman, and Engine Boy." A historical notice of the pioneer locomotive engines and their inventors, with a project for the establishment of certificates of qualification in the running service of railways. By Michael Reynolds. New Edition, with revised appendix. 3s. 6d. (Crosby Lockwood and Son, 7, Stationers' Hall Court, E.C.)
- "Western Australia Gold Fields Guide." Compiled by Hussey and Gillingham. 1s. (London: Effingham Wilson, 11, Royal Exchange.)

NEW ROLLING MILLS.

The Richmond Works, Stockton-on-Tees, are about to be started by a limited company to roll hoops, strips, and bars in both steel and iron. The prospectus will be issued next week, with a strong local directorate.

—THE ROBINSON SOUTH AFRICAN BANKING COMPANY (LIMITED) notify to holders of share warrants to bearer that Coupon No. 2 must be presented at the head offices, 1, Bank Buildings, Lothbury, E.C., or at the Paris agency, 68, Rue de Provence, for payment of the final dividend to September 30 of 4s. per share, free of income tax, on and after November 17, and must be left three clear days for examination.

THE METAL MARKETS.

THE METAL MARKET, LONDON, NOVEMBER 20.

Copper.

THIS market opened firm, being influenced especially by the strong advices from America, where Lake has again advanced, whilst purchases of refined copper have been made here for American account. The opening value of G.M.B.'s was £49 15s. s.c., and £50 7s. 6d. three months, but in sympathy with the depression on the Stock Exchange, our speculative market then gave way, £49 8s. 9d. s.c. being accepted on Tuesday and £50 2s. 6d. three months. Wednesday's range of values was from £49 11s. 3d. to £49 7s. 6d. s.c. and £50 5s. to £50 three months, the business done being of large extent. On Thursday the tendency was firmer, and values improved to £49 11s. 3d. s.c. and £50 5s. three months, but to-day there was a fresh relapse, the market closing dull at £49 10s. s.c. and £50 2s. 6d. three months. The mid-monthly statistics show a very slight increase in the first fortnight's visible supplies.

Tin

This has been a very steady market as a whole, but without much business doing, the daily transactions never reaching 200 tons. On Monday Straits tin opened at £58 10s. s.c., and £59 7s. 6d. three months. Tuesday's market was steady at £58 15s. s.c. and £59 12s. 6d. three months. Wednesday's values closed a shade easier, down to £58 11s. 3d. being accepted for s.c., and £59 7s. 6d. for three months, but the ground lost was regained on Thursday, which closed at £58 15s. spot, and £59 12s. 6d. three months. To-day we had a quiet market, with business at £58 15s. spot, and £59 12s. 6d. to £59 8s. 9d. three months, the two positions closing respectively at £58 15s. s.c., and £59 10s. three months sellers. Biliton has improved from 35½ fl s.c., to 35½ fl, and from 35½ fl three months to 35½ fl, whilst Banca closes at 36 fl.

Pig Iron.

Scotch shipments last week amounted to about 6500 tons, or (say) 400 tons more than those of the same week of last year. The Glasgow market opened firm at 48s. 2d. s.c., and a good business was done at 48s. 11d. and up to 49s. 3d. s.c. Tuesday was likewise active at 49s. 0d. to 49s. 3d., but Wednesday's values were easier down to 48s. 9d. cash being accepted, and this price to 49s. 1d. constituted Thursday's range. To-day business was down at 48s. 9d. to 48s. 7½d., and the market closed flat at 48s. 8d. s.c. and 48s. 11d. a month Scotch, with hematite at 50s. 8d. and Middlesbro at 40s. 7d.

Lead.

The scarcity of freights continues to exert a hardening influence on this market, which closes firm at £11 12s. 6d. to £11 15s. soft foreign, and £11 15s. to £11 17s. 6d. English.

Spelter

has been in considerable request, and values have risen several shillings per ton, closing steady at £17 10s. to £17 12s. 6d. ordinary, and £17 15s. to £17 17s. 6d. specials.

Antimony

is firm at £29 to £29 10s.

Quicksilver

steady at £6 12s. 6d. firsts, and £6 11s. seconds.

The following are to-night's (November 20) prices of metals:—

Copper		£ s. d.	£ s. d.
Tough cake and ingot .. ..	..	52 15 0	..
Best selected .. ..	..	54 5 0	..
Electrolytic Copper .. ..	..	55 0 0	..
Sheets and sheathing .. ..	..	61 0 0	..
Flat bottoms .. ..	..	64 0 0	..
Obili bars .. ..	..	50 2 0	..
Good merchantable, .. spot, & 3 months respectively ..	..	50 2 0	..
Copper tubes, seamless .. ..	..	0 0 0 3/4	..
Alloys		£ s. d.	£ s. d.
BRASS: Wire .. ..	..	0 0 0 3/4	..
" Tubes (solid drawn) ..	..	0 0 0 3/4	..
" Sheets .. ..	..	0 0 0 3/4	..
PHOSPHOR BRONZE: Alloys II. ..	..	..	..
" .. III. or ..	..	81 0 0	..
" .. VII. ..	..	82 0 0	..
" .. XI. ..	..	78 0 0	..
" .. Vulcan brand Al ..	..	72 0 0	..
DETA METAL .. ..	..	72 0 0	..
BULL'S METAL .. ..	..	65 0 0	..
Ferrobronze (Vivian's)		£ s. d.	£ s. d.
Ingots .. ..	..	0 0 0 3/4	..
Ordinary sheets, plates, bolts and bars ..	..	0 0 0 3/4	..
Screw bolts and nuts .. ..	..	0 0 0 3/4	..
Pump rods, plain .. ..	..	0 0 0 3/4	..
" .. finished .. ..	..	0 0 10 3/4	..
DELTA METAL: No. 4 (per ton) ..	..	..	..
" .. Sheets and plates (per lb.) ..	..	..	..
" .. Bars, round, square, flat (per lb.) ..	..	..	..
" .. hexagon (per lb.) ..	..	..	78 0 0

Tin		£ s. d.	£ s. d.
English, ingots, f.o.b. .. ..	..	63 0 0	63 10 0
" .. bars .. ..	..	64 0 0	64 10 0
" .. refined .. ..	..	65 0 0	65 10 0
Straits, spot, and three months respectively ..	..	63 15 0	63 10 0
Australian, spot, and three months respectively ..	..	60 10 0	61 5 0
Banca .. (in Holland) ..	..	60 5 0	60 7 6
TIN PLATES: Charcoal, best quality .. per box ..	..	6 15 0	6 15 0
" .. ordinary .. ..	..	0 11 3	0 11 3
" .. Cast, best quality .. ..	..	0 10 9	0 10 9
" .. ordinary .. ..	..	..	0 10 3

These prices of tinplates are f.o.b. at Swansea; at Liverpool 6d. per box more.

Iron		£ s. d.	£ s. d.
Fig. G.M.B., f.o.b., Clyde, spot ..	..	..	2 8 8
" .. Scotch pig, No. 1 Garbharris ..	..	..	2 12 0
" .. " .. Coltness ..	..	..	2 14 0
" .. " .. Clyde ..	..	..	2 14 0
" .. " .. Govan ..	..	..	2 9 6
Bars, Welsh, f.o.b. Wales ..	..	5 10 0	5 12 0
Plates .. ..	..	..	6 10 0
Bars, Staffordshire, at works ..	..	..	5 17 0
Sheets .. ..	..	..	8 5 0
Plates .. ..	..	..	6 10 0
Hoops .. ..	..	..	5 17 0
Ship plates, Middlesbrough ..	..	..	2 2 0
STEEL: English spring .. ..	..	..	12 10 0
" .. cast .. ..	..	..	45 0 0
" .. Rails at works, according to section ..	..	4 12 6	5 5 0
Lead		£ s. d.	£ s. d.
Spanish or soft foreign .. ..	..	11 12 6	11 15 0
English pig, common .. ..	..	11 15 0	11 17 0
" .. L.B. .. ..	..	..	12 5 0
" .. sheet and bar lead .. ..	..	..	12 12 6
" .. pipe .. ..	..	..	13 2 6
" .. red .. ..	..	..	14 5 0
" .. white .. ..	..	..	17 10 0
" .. patent shot .. ..	..	..	15 0 0

Spelter		£ s. d.	£ s. d.
Silician ordinary brands .. ..	..	17 10 0	17 12 6
" .. special brands .. ..	..	17 15 0	17 17 6
English Swansea .. ..	..	18 5 0	18 7 6
Sheet Zinc .. ..	..	20 5 0	21 12 6

Antimony		£ s. d.	£ s. d.
Antimony .. ..	..	29 0 0	29 10 0

Quicksilver		£ s. d.	£ s. d.
Flasks, 75 lbs. warrants .. ..	..	6 11 0	6 12 0
Ore, e.l.f., U.K. ports .. ..	..	..	per unit.
1st quality, 50 per cent. and upwards ..	..	0 0 10	0 1 1 3/4
2nd .. 47 per cent. to 50 per cent. ..	..	0 0 10	0 1 0
3rd .. 45 .. 47 per cent. ..	..	0 0 8	0 0 11

Aluminium		£ s. d.	£ s. d.
20-90% per cent. .. ..	..	..	Per lb.
.. ..	..	0 1 4 3/4	0 1 8
Nickel		£ s. d.	£ s. d.
90-99 per cent., guaranteed .. ..	..	0 1 2	0 1 4

"THE MINING JOURNAL" SHARE LIST.

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—A, Antimony; Ar, Arsenic; B, Bismuth; Br, Bromine; C, Copper; D, Diamond; G, Gold; I, Iron; L, Lead; M, Manganese; N, Nitrate; P, Phosphate; Q, Quicksilver; R, Ruby; S, Silver; S-L, Silver-lead; Sul, Sulphur; T, Tin; and Z, Zinc. * In the "Amount of Share" column of British Mines signifies that the mine is conducted on "Cost Book" principles; † in the "Head Office" column of African Mines signifies that the address given is not that of the head office but of a sub, or transfer office; and ‡, following the names of African Mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

* The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share Dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that while our Share List will almost invariably be found correct, we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.

AFRICAN MINES.

Name.	Closing Price, Nov. 20, 1896.	Closing Price, Nov. 13, 1896.	Am't. of Share	When last X'd and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Abbott's Con. Reefs	1/8 1/8	1/8 1/8	1/8	—	—	—	De Kaap	Broad Street Avenue
Adler Consolidated	1/8 1/8	1/8 1/8	1/8	—	—	—	Transvaal	1, Moorgate place
African Mines	1/8 1/8	1/8 1/8	1/8	—	—	—	De Kaap	3, Copthall-buildings
" Gold Reviv.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	23, College Hill
Afrikaner	1/8 1/8	1/8 1/8	1/8	—	—	—	Transvaal	23, College Hill
Alexandra Estate	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	16, George street
Anglo	1/8 1/8	1/8 1/8	1/8	—	—	—	Winchester House	Winchester House
Anglo-French Exp.	1/8 1/8	1/8 1/8	1/8	—	—	—	S. Africa	3, Princes street
Apurton	1/8 1/8	1/8 1/8	1/8	—	—	—	Matabid.	Winchester House
Aurora	1/8 1/8	1/8 1/8	1/8	—	—	—	West Coast	Dashwood House
" West United.	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	8, Old Jewry
Balks Eersteling	1/8 1/8	1/8 1/8	1/8	—	—	—	Transvaal	7, Lothbury
Balks Consol.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	35, Gracechurch-st.
Barnato Consol.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	15, Geo. St., Mn Ho.
Barroet	1/8 1/8	1/8 1/8	1/8	—	—	—	De Kaap	7, Lothbury
Bechuana Land Exp.	1/8 1/8	1/8 1/8	1/8	—	—	—	Bechuana	17, Basinghall-street
" Trau Assoc.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	72, Basinghall street
Big Golden Quarry	1/8 1/8	1/8 1/8	1/8	—	—	—	Kaap Rivr	Warnford Court
Block "B" Lang.	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	3, Princes-st., E.C.
Bonanza	1/8 1/8	1/8 1/8	1/8	—	—	—	Turffont'n	120, Bishopgate-st.
Brit. S. A. Char.	1/8 1/8	1/8 1/8	1/8	—	—	—	S. Africa	15, St. Swithin's-lane
Bullefontein	1/8 1/8	1/8 1/8	1/8	—	—	—	Potchefst.	7, Lothbury
" Central	1/8 1/8	1/8 1/8	1/8	—	—	—	—	8, Old Jewry
" Consolidated	1/8 1/8	1/8 1/8	1/8	—	—	—	—	Warnford Court
Cape Asbestos	1/8 1/8	1/8 1/8	1/8	—	—	—	Orange Rv	13, St. Swithin's-lane
" Copper	1/8 1/8	1/8 1/8	1/8	—	—	—	Cape Col.	9, Queen-street-place
" 6% Pref.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
Cecil Consol.	1/8 1/8	1/8 1/8	1/8	—	—	—	Johannesb.	82, Cannon-street
Cent. de Kaap	1/8 1/8	1/8 1/8	1/8	—	—	—	De Kaap	Palmerston Bldgs
" Hood's Deep	1/8 1/8	1/8 1/8	1/8	—	—	—	—	120, Bishopgate-st.
Champ d'Or	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	8, Old Jewry, E.C.
Charterland G.F.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	19, St. Swithin's-lane
Chimies West	1/8 1/8	1/8 1/8	1/8	—	—	—	Winchester Ho.	Winchester Ho.
City and Sub. N.W.G.	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	Gresham Ho.
Con. Bulfontein	1/8 1/8	1/8 1/8	1/8	—	—	—	Griguland	62, Lombard-st
Con. Deep Levels	1/8 1/8	1/8 1/8	1/8	—	—	—	Transvaal	30, St. Swithin's-lane
Con. G. Fields S.A.	1/8 1/8	1/8 1/8	1/8	—	—	—	S. Africa	8, Old Jewry
Con. G. 5% Pref.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
Do. 5% Z. Deben.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
Crown Deep	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	120, Bishopgate-st.
" Meet	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
De Beers Consol.	1/8 1/8	1/8 1/8	1/8	—	—	—	Kimberly	62, Lombard-street
Do. 5% 1st Deb.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
Do. 4% 2nd Deb.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
Driefontein	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
Durban Reefs	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	28, Leadenhall-bldg
" Deep	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
Eastleigh	1/8 1/8	1/8 1/8	1/8	—	—	—	Klerksdrp	57, Leadenhall Street
East Orion	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	8, Old Jewry
" Rand	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
Exploration	1/8 1/8	1/8 1/8	1/8	—	—	—	S. Africa	170, Winchester-ho.
Exploring L.M.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	30, St. Swithin's-lane
Ferreira	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	19, St. Swithin's-lane
French Rand	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	28, Austin Friars
Golden Deep	1/8 1/8	1/8 1/8	1/8	—	—	—	Transvaal	30, St. Swithin's-lane
" Estate	1/8 1/8	1/8 1/8	1/8	—	—	—	—	110, Bishopgate-st.
" Main Reef	1/8 1/8	1/8 1/8	1/8	—	—	—	—	Warnford Court, E.C.
George Goch	1/8 1/8	1/8 1/8	1/8	—	—	—	Johannesb.	Johannesburg
Ginsberg New	1/8 1/8	1/8 1/8	1/8	—	—	—	Driefont.	Warnford Court, E.C.
Glencolm	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	2, Drapers-gardens
Golden Dove	1/8 1/8	1/8 1/8	1/8	—	—	—	Natal	65, Chancery Lane
Gld. Fls. Deep	1/8 1/8	1/8 1/8	1/8	—	—	—	S. Africa	8, Old Jewry
" of Lydenburg	1/8 1/8	1/8 1/8	1/8	—	—	—	Lydenburg	7, Lothbury
" of Mashonid.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	19, St. Swithin's-lane
" 11ra d'Fgo	1/8 1/8	1/8 1/8	1/8	—	—	—	Mashonid.	75, Leadenhall Street
Graskop	1/8 1/8	1/8 1/8	1/8	—	—	—	Lydenburg	2, Tokenhouse Bldgs
Gt. Eastm. Colliery	1/8 1/8	1/8 1/8	1/8	—	—	—	Grootelo	Gresham House
Griguland W.	1/8 1/8	1/8 1/8	1/8	—	—	—	Transvaal	62, Lombard-street
Heidelberg. Est. Ex.	1/8 1/8	1/8 1/8	1/8	—	—	—	Heidelberg.	—
Henderson's Trans	1/8 1/8	1/8 1/8	1/8	—	—	—	Zoutpanbg	85, Gracechurch st.
Henry House	1/8 1/8	1/8 1/8	1/8	—	—	—	De Kaap	Warnford-court.
Jb' Con. Invt (N)	1/8 1/8	1/8 1/8	1/8	—	—	—	—	7, Lothbury
Pioneer	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	Johannesburg
Jubilee	1/8 1/8	1/8 1/8	1/8	—	—	—	—	8, Old Jewry
Jumpers	1/8 1/8	1/8 1/8	1/8	—	—	—	—	120, Bishopgate-st.
" Deep	1/8 1/8	1/8 1/8	1/8	—	—	—	—	30, S. Swithin's lane
Kimberley	1/8 1/8	1/8 1/8	1/8	—	—	—	Kimberley	13, Fishbury circus
" Rand	1/8 1/8	1/8 1/8	1/8	—	—	—	—	2, Drapers-gardens
Kleinfontein Cen.	1/8 1/8	1/8 1/8	1/8	—	—	—	E. Rand	Winchester House
Klerksdrp	1/8 1/8	1/8 1/8	1/8	—	—	—	—	110, Cannon St.
Knight's Deep	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	8, Old Jewry
Kofffontein	1/8 1/8	1/8 1/8	1/8	—	—	—	Jacobsonal	5, Gt. St. Helen's
Lancaster	1/8 1/8	1/8 1/8	1/8	—	—	—	Lydenburg	120, Bishopgate-st.
Langlaate	1/8 1/8	1/8 1/8	1/8	—	—	—	Lydenburg	59, Holborn Viaduct
" Royal	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	2, Drapers-gardens
" Star	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
Liabon-Berlyn	1/8 1/8	1/8 1/8	1/8	—	—	—	Lydenburg	Suffolk House
Lon. Paris Fin & M.	1/8 1/8	1/8 1/8	1/8	—	—	—	S. Africa	53, Old Broad Street
London & S. A. Ex.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	19, Fishbury-circus
Lupatard Vlei	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	Warnford-court, J.
Lydenburg Estate	1/8 1/8	1/8 1/8	1/8	—	—	—	Lydenburg	85, Gracech. St.
" M.G. Est.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	120, Bishopgate St.
Main Reef (New)G	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	15, George St., MnH
Marisale Nigel	1/8 1/8	1/8 1/8	1/8	—	—	—	Mashonid	8, Old Jewry, E.C.
Mashon. Agency	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
" Central	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
Matabele'd G. R/I	1/8 1/8	1/8 1/8	1/8	—	—	—	Matabele'd	3, Copthall-buildings
May Con. (New) G	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	4, Lothbury
Meyer & Charl.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	1, Crosby Square
Minerva	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
Mines Selection	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
Modderfontein	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	33, Brd St. Avenue
" B. Est.	1/8 1/8	1/8 1/8	1/8	—	—	—	—	13, George Street
Molyneux Consol.	1/8 1/8	1/8 1/8	1/8	—	—	—	Modderfont	120, Bishopgate st
Moodies	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
Mozambique	1/8 1/8	1/8 1/8	1/8	—	—	—	S.E. Africa	Gresham House
Namaqua	1/8 1/8	1/8 1/8	1/8	—	—	—	Namaquald	24, Leadenhall-blds.
New African	1/8 1/8	1/8 1/8	1/8	—	—	—	—	—
" Bulfontein	1/8 1/8	1/8 1/8	1/8	—	—	—	Grigul. W.	82, Hatton Garden
" Chimes	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	6, Drapers Gardens
" Comet	1/8 1/8	1/8 1/8	1/8	—	—	—	Heidelberg	8, Old Jewry, E.C.
" Cross	1/8 1/8	1/8 1/8	1/8	—	—	—	Langlaate	Winchester-house
" Heriot	1/8 1/8	1/8 1/8	1/8	—	—	—	—	120, Bishopgate-st.
" Jagersf.	1/8 1/8	1/8 1/8	1/8	—	—	—	Transvaal	36, Gresham Ho NO
" Klondike	1/8 1/8	1/8 1/8	1/8	—	—	—	—	3, Copthall-buildings
" Kinsland	1/8 1/8	1/8 1/8	1/8	—	—	—	Winchester House	Winchester House
" Midland	1/8 1/8	1/8 1/8	1/8	—	—	—	Middle Vlei	120, Bishopgate-st.
" Pimrose	1/8 1/8	1/8 1/8	1/8	—	—	—	Rand	2, Drapers-gardens
" Rietfontein	1/8 1/8	1/8 1/8	1/8	—	—	—	—	Warnford-st., E.C.
" S. Augustine	1/8 1/8	1/8 1/8	1/8	—	—	—	Grigulid W	33-1, St. Swithin's-l.
" S. P. Estate	1/8 1/8	1/8 1/8	1/8	—	—	—	Heidelberg	24, N. John-st., E.C.
" S. P. Estate	1/8 1/8	1/8 1/8	1/8	—	—	—	—	19 Bury Street pl.

AFRICAN MINES—(Continued).

Name.	Closing Price, Nov. 20, 1896.	Closing Price, Nov. 13, 1896.	Am't. of Share	When last X'd and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Nigel	2 1/2 2 1/2	2 1/2 2 1/2	2 1/2	—	—	—	Rand	86, Gresham Ho.
" Deep	2 1/2 2 1/2	2 1/2 2 1/2	2 1/2	—	—	—	Heidelberg	8, Old Jewry
North Charterland	3/4 7/8	3/4 7/8	3/4	—	—	—	Winchester House	Winchester House
Northfontein	1 1/2 1 1/2	1 1/2 1 1/2	1 1/2	—	—	—	Rand	120, Bishopgate-st.
Nourse Deep	3 1/2 3 1/2	3 1/2 3 1/2	3 1/2	—	—	—	Rand	13, Austin Friars
Oceana Consolidatd	1 1/2 1 1/2	1 1/2 1 1/2	1 1/2	—	—	—	Witrg Lyn	13, Austin Friars
" Development	3 1/2 3 1/2	3 1/2 3 1/2	3 1/2	—	—	—	Heidelberg	—
" Minerals	3 1/2 3 1/2	3 1/2 3 1/2	3 1/2	—	—	—	—	—
Orange F.S.E.	2 1/2 2 1/2	2 1/2 2 1/2	2 1/2	—	—	—	Orange F.S.	10, Moorgate-st.
Orion (New)	2 1/2 2 1/2	2 1/2 2 1/2	2 1/2	—	—	—	Rand	8, Old Jewry
Paarl Central	1 1/2 1 1/2	1 1/2 1 1/2	1 1/2	—	—	—	Transvaal	120, Bishopgate-st.
Pard's Mozambq.	3 1/2 3 1/2	3 1/2 3 1/2	3 1/2	—	—	—	S.E. Africa	Broad St. Avenue
Piggs Peak	3 1/2 3 1/2	3 1/2 3 1/2	3 1/2	—	—	—	Swaziland	4, Sun Court
Porges Randfont.	1 1/2 1 1/2	1 1/2 1 1/2	1 1/2	—	—	—	Rand	1, Bank Buildings
Potchefstroom	1 1/2 1 1/2	1 1/2 1 1/2	1 1/2	—	—	—	Potchefst.	1, Bank Buildings
Princess Estate G	1 1/2 1 1/2	1 1/2 1 1/2	1 1/2	—	—	—	Rand	3

AUSTRALIAN AND NEW ZEALAND MINES—(Continued).

Anglo-Chilian P/N	8 1/2	8 1/2	8 1/2	8 1/2	10 0	7/0 Feb. 27 '96	10 0 0	35,000	Antofagast.	123, Bishopst-st W
" 4 1/2 Rylst MB	8 1/2	9 1/2	8 1/2	9 1/2	100 0	1 1/2 % Nov 3 '96	100 0 0	£410,520	"	"
Argen. Concessions	—	—	—	—	2/	—	0 2 0	150,000	S. Luis ...	3 & 5, Queen Street.
Caylloma.....S	1 1/2	1 1/2	1 1/2	1	2 0	1/- Apr. '94	2 0 0	125,000	Pacu	52, Leadenhall stree
Colorado Nit. ...N	3/4	1 1/4	3/4	1 1/4	5 0	7/6 Dec. 16, '98	5 0 0	32,000	Chilli	12, King-st., Liverp'l
Colombian Hy...G	5/8	2 1/2	5/8	3/8	1 0	1/- Jy 28, '95	1 0 0	75,000	Colombia	10, Blomfield-street
Copiapo	2 1/2	2 1/2	2 1/2	2 1/2	2 0	2/ May 29, '94	2 0 0	100,000	Chilli	Dashwood House, E.O
Darien "A".....G	4 1/2	4 1/2	5 1/2	5 1/2	1 0	—	1 0 0	49,553	Colombia	Manchester.
" "B"	5 1/2	6	6 1/2	7	1 0	—	1 0 0	30,000	"	"
El Callao	3/4	3/4	3/4	3/4	5 0	9 1/2 d. Feb. '94	5 0 0	257,600	Venezuela	8, Bishopsgt.-st, Wa
Frontino & B...G	1 1/2	1 1/2	1 1/2	1 1/2	1 0	9d. Oct. 15 '91	1 0 0	128,882	Colombia	184, Gresham House
Glenrock	1/3	1/3	1/3	1/3	1 0	—	1 0 0	199,348	Arg. (A.L.)	3-5, Queen-street, E.O
Guadalupe	—	—	3/8	5/8	1 0	—	1 0 0	120,000	Honduras	14, Union ct. Old Bnd
Javal ".....G	—	—	—	—	2/-	—	0 2 0	105,269	Nicaragua	139, Cannon-street
Lagunas	2 1/2	2 1/2	2 1/2	2 1/2	5 0	15 p.c. Dec. '94	5 0 0	120,000	Tarapaca	3, Gracechurch st;
Lautaro	5 1/2	6 1/2	5 1/2	6 1/2	5 0	7/- June 26 '94	5 0 0	110,000	Chilli	70,
Liverpool	7 1/2	8 1/2	7 1/2	8 1/2	5 0	15/- May 11, '96	5 0 0	22,000	"	Liverpool.
London Nit.....N	2	2 1/2	2	2 1/2	3 0	3/4 % Nov. '86	5 0 0	10,000	"	9, Gracechurch-st.
" Nit.(Pref.)	3 1/2	4	3 1/2	4	5 0	4 % Nov. 28 '95	5 0 0	22,000	"	"
New Julia	3 1/2	3 1/2	—	—	1 10	1s. Dec. '94	1 10 0	135,000	Tarapaca	50, Lime-street, E.O
" Tamarguani ..	5 1/2	5 1/2	1 1/2	1 1/2	1 10	8 p.c. Feb. '95	1 10 0	130,000	"	"
" 8 % Cum Pref	5 1/2	5 1/2	1 1/2	1 1/2	1 10	6 p.c. Feb. '96	100 0 0	£280,000	Colombia	5, Cophthall Bu'd'ngs
" 6 p.c. Debs ..	7/8	8 1/8	7/8	8 1/8	100 0	—	0 5 0	160,000	"	"
Nueva Esperanza	11	1	10	1	5/	—	0 5 0	160,000	"	"
Orita	—	—	—	—	1 0	1/- April '98	1 0 0	30,000	Colombia	10, Blomfield-street
Ouro Preto	—	—	—	—	1 0	1/- Feb. '98	1 0 0	100,000	Brazil	6, Queen-street-place
Pao. & Jarampa N	1 1/2	1 1/2	1 1/2	1 1/2	5 0	4/- May, '95	5 0 0	72,000	Tarapaca	3, Gracechurch-st.
Phoenix	-9	1 1/2	9/	1 1/2	10/-	—	0 8 0	400,000	S. Luis ...	3 & 5, Queen Street.
Rosario	4 1/2	5 1/2	4 1/2	5 1/2	5 0	3/- Aug. 13 '98	5 0 0	120,000	Chilli ...	7 1/2 Old Broad-street
" (3 % Deb.)	102	103	102	103	100 0	5 % Oct. 1 '96	100 0 0	£474,660	"	"
" Hu'r D Serp	103	108	103	116	100 0	5 % July 1 '96	100 0 0	£200,000	"	"
St. John del Ray G	1 1/2	1 1/2	1 1/2	1 1/2	1 0	—	1 0 0	327,650	Brazil	Finsby Ho., Blm'fd st
San Donato ...N	3/4	1 1/4	3/4	1 1/4	5 0	2/8 May 24 '95	5 0 0	32,000	Chilli	12, King-st., Liverp'l
" Jorge	5	5 1/2	5	5 1/2	5 0	5/ Oct. 15 '96	5 0 0	75,000	"	9, Gracechurch-st
" Fabio	1 1/2	1 1/2	1 1/2	1 1/2	5 0	5/- Oct. 30 '96	5 0 0	32,000	"	"
" Sebastian ...N	3/4	1	3/4	1	5 0	2/ July 15 '98	5 0 0	29,000	"	Dashwood House E.O
Santa Barbara ...G	3/4	3/4	3/4	3/4	10/	1/3 Dec. '88	0 10 0	60,000	Brazil	Liverpool
" Elena	2 1/2	2 1/2	2 1/2	2 1/2	5 0	5/- Nov. 15 '94	5 0 0	22,000	Tarapaca	3, Gracechurch-st.
" Mita	2 1/2	4	2 1/2	4	5 0	10/ May 29 '96	5 0 0	29,000	Chilli ...	Dashwood House, N.
Tollima "A".....S	5 1/2	5 1/2	5 1/2	5 1/2	5 0	5/- Mar. 18 '96	5 0 0	14,000	"	18, Finsbury-circus
" "B"	5 1/2	5 1/2	5 1/2	5 1/2	5 0	5/- Mar. 12 '94	5 0 0	6,000	"	"

"SOME ECONOMIC FEATURES IN CONNEXION WITH MINING ON THE WITWATERSRAND GOLDFIELDS, SOUTH AFRICAN REPUBLIC."

By EDGAR P. RATHBONE.

IT is probable that in no other mining country in the world, and certainly none connected with gold mining, has the statistical information relating to almost every possible point, of any economic value, been elaborated to greater perfection than it has been in the South African Republic.

The credit of this satisfactory condition of affairs is largely due to what is generally known as the "Technical Department" in connexion with the Government service, which practically owes its very existence to Mr. J. Klimke, the State mining engineer, who, by his energy and devotion to work, has succeeded in so far perfecting his department that there is probably no department of a similar nature, connected with any Government in the world, which can boast of giving such perfect statistical information.† Had the Government of the South African Republic supported Mr. Klimke in the manner which the great gold industry of the State fully deserves there would by this time have been no department connected with mining and metallurgy which would not have been of a similar satisfactory nature; as, for instance, the much-needed geological survey of the goldfields, and a scientific research department in connexion with metallurgy.

The goldfields of the South African Republic have been divided by the Government into five principal separate districts, from which it may be said that practically the whole gold output of the Republic is derived, although there are some half dozen others which have at various times attracted attention, but have as yet produced so little gold as not to merit any particular attention in this paper.

Of these five districts, those known as the Witwatersrand, Schoonspruit (Klerksdorp), and the Heidelberg (Nigel) districts practically constitute one district, although this nominally divided up for the sake of better official administration. These districts are, moreover, all working under practically the same conditions, and in the same geological deposits—that is, gold-bearing beds of conglomerates. The other two districts are those known as the De Kaap and Lydenburg Goldfields, which are quite distinct from one another; the occurrence of gold also being different to that on the first three.

In this paper it is intended only to deal with the mining of gold-bearing conglomerates on the Witwatersrand, Klerksdorp, and Heidelberg Goldfields collectively, as the same geological formations in which the gold-bearing deposits occur are found traversing through all three of them alike.

Geologically speaking, these districts constitute, so far as can be ascertained, one more or less continuous basin, the rock formation of which is principally composed of sandstones ranging from very fine grained to the coarse grained pebble formation known to geologists as conglomerates. These sedimentary rock formations, either by direct or neighbouring contact with intrusive igneous rocks, have frequently become so metamorphosed as to merit the nomenclature of quartzites. The gold-bearing deposits of the Witwatersrand, frequently erroneously referred to as "reefs," and in local parlance known as "banket beds," consist of certain beds of conglomerates which have been found outcropping on the northern edge of the rock formations of this channel-shaped basin which may be said to take a more or less east and westerly course.

It is not intended in this paper to enter into any geological discussion, as this part of the subject has already been exhaustively treated of by others.

The Witwatersrand goldfields, as officially divided, extend from the neighbourhood of Boksburg on the east to the neighbourhood of Blaauwbank on the west of Johannesburg, which town thus occupies a more or less central position; the distance from Johannesburg to the other two districts mentioned being about the same, that is, some 20 miles. To the east of this again, the Heidelberg section must be added, lying more or less to the south-east of Boksburg, and on the west the Klerksdorp district, which also includes the district in the neighbourhood of Potchefstroom. The total length of this channel-shaped basin on its northern fringe only, extending from, say, Klerksdorp to Heidelberg, may, roughly speaking, be said to be about 100 miles. In order, however, to obtain a better idea as to the actual mining area which has up to the present been pegged out in claims, and upon which mining at the present time is being actually conducted, or in all probability will be at some future date, is equal, according to the latest Government returns, to 370,000 acres. It is interesting to note that in 1895 the Government received over a million sterling for licenses on the claims included in this area.

This area is about equivalent to twice that of the county of Middlesex. It is, however, from less than half this area that 95 per cent. of the total gold production of the Republic is now being extracted, and consequently one might go further and state that it is this comparatively small plot of ground, which is responsible for the third largest annual output of gold of any country in the world.

It is important to bear these facts in mind, in order to appreciate the great concentration of work which it is possible to conduct economically within such a confined area. In most of the other gold regions of the world the gold mines are usually separated by great distances, whereas on the Witwatersrand they form one continuous line of mines laid out in almost parallel rows, as represented by the "Outcrop" and Deep Level Companies. It must also be borne in mind that all the mines in this district are working more or less under similar conditions, and that the factors upon which the cost of working depends, as defined through the experience of any one company, are more or less applicable to any other.

It is difficult to state exactly how many mines may be said to be in active work throughout this district, as it is not always easy to define when any particular mining undertaking deserves to come under that name due to the extension of its underground workings. It is probable, however, that there are fully 100 mining undertakings which merit the name of "mines," and of these at the present time fully 50 are equipped with stamp mills, and are either producing gold or are being developed with a view of shortly doing so. In order to give some idea of the magnitude of the mining operations which are being conducted by these gold mines, it is now proposed to give a few statistical details, which have been principally taken from the State Mining Engineer's annual report for 1895, the excellent character of which has already been referred to.

During the past twelve years, or practically since the first discovery of the Witwatersrand goldfields, some 10,000,000 oz., equivalent to over 300 tons weight of gold, have been extracted

from the gold-bearing conglomerates traversing the Witwatersrand, which, in round numbers represents a value of, say, £35,000,000 sterling; whilst the present production of gold is at the rate of over £7,000,000 sterling annually.

It is somewhat difficult to arrive at any exact estimate of the actual cost of production of all this gold, but so far as relates to the cost of labour and mining stores the Government returns indicate, that fully some £7,000,000 sterling is expended by the mines in this district alone, that is, both the producing and non-producing. To this amount must be added another million, payable annually to the Government, for licenses on claims.

The following tabular statement represents under the various headings the actual amounts which are expended per annum for labour and stores in the Witwatersrand district:—

White labour	£2,400,000
Kaffir	2,000,000
Coal	700,000
Explosives—i.e., dynamite and gelatine	600,000
Mining timber and sawn lumber	300,000
Cyanide	240,000
Meat, mealies, and mealie meal (being for the most part food for Kaffirs)	250,000
Iron	85,000
Candles and paraffin	95,000
Tools	70,000
Steel	65,000
Mercury, zinc, and other chemicals	45,000
Caps, safety fuse, rope, cement, &c.	150,000
Total	£7,000,000

WHITE LABOUR.

The white labour, for which nearly two and a-half millions sterling is paid out annually by the Witwatersrand, may be divided up as follows:—

Occupation.	Number.	Average monthly wage.
Shift bosses	185	£33
Miners	1,439	23
Rock drill machine-men	956	17
Trammers	226	18
Engine-drivers	765	24
Pump-men	129	23
Stokers	89	19
Carpenters	1,058	26
Smiths	638	26
Mechanics and fitters	900	26
Bricklayers	75	22
Stonemasons	213	29
Daily labourers	149	18
Mine and store clerks	287	23
Amalgamators	291	23
Cyaniders	217	22
Concentrators	35	22
Vannermen	32	20
Smelters	21	26
Various workmen	472	21

It will at once be seen from the latter statement that the average wage for skilled labour on the Witwatersrand is much higher than that which obtains in any other mining country in the world. On the other hand, it is of course only fair to state that the cost of living is also higher, and it must be admitted that to all those who have to pay the ordinary rents for houses which obtain in the town of Johannesburg, that it is probably greater than in any other part of the civilised world. Many of the larger mining companies, however, provide their skilled labour with either free quarters or only charge their employees at a very small rate, in fact such as admits of a fair interest being paid on the capital outlay for the erection of the necessary buildings. In other respects the cost of living, exclusive of clothes and drink, may be said to be covered by the sum of £5 to £6 a month, the larger companies having boarding houses at which three meals daily are provided for this amount. It is of course in the interests of all companies to see that those to whom they let out their boarding houses give a fair return for the money, otherwise they would soon lose their employees. It is evident that men living out on the mines cannot expect, any more than the people in Johannesburg do, that they will get "home" luxuries or the choice of viands that a man is accustomed to in more civilised countries.

It only depends on the efficiency of the labour as to whether any particular rate of pay may be considered high or otherwise, but it might be fairly contended on general principles that when white labour has become demoralised by constant contact with black labour, its efficiency is considerably reduced. On these grounds, therefore, the author considers that the rate of pay for white labour on the Rand is frequently of an excessive nature. However good a workman may be in England or America, he no sooner finds that he can get black labour to assist him, than, as a rule, he takes advantage of it, and one not unfrequently hears a really good miner saying, or any way inferring, that he did not come out to the Witwatersrand to work, but rather to superintend that of others. Unfortunately, until the miner has a fair acquaintance with the Kaffir languages, his value as a superintending of mining labour is comparatively small, whilst, on the other hand, those who are born in the country and possess such knowledge, have not had, as a rule, much practical experience of mining. From various returns issued by the larger companies, it would appear that white labour, reckoned on the cost per ton crushed, varies from 2s. 6d. to 3s. 6d. for mining only.

Native or Black Labour.

From the tabular statement it will be seen that two millions is payable annually in wages for native labour, some 60,000 natives being employed on the surface and underground. In addition to this amount, in order to arrive at what in reality represents the true average cost of Kaffir labour per day, it would be necessary to reckon his board and lodging, which has also to be paid by the Company employing him. This adds fully another quarter of a million to their value, since the cost of superintending Kaffir labour on the surface is not reckoned in this estimate, that is, the wages paid to Compound managers and Kaffir policemen, or the outlay in building the Compounds in which the Kaffirs live. With all these items included, it may be said that the average Kaffir receives as high a wage as the ordinary day labourer in England—namely, from 2s. 6d. to 3s. a day. Doubtless, when a Kaffir has been taught the work of a miner, and can therefore be fairly considered as more or less efficient, this rate of wage need not be considered excessive. It must, however, be remembered in this connexion that the Kaffir's whole object in earning wages is, as a rule, to save sufficient to enable him to return to his "kraal," generally situated hundreds of miles distant from the goldfields, and there to purchase sufficient cattle to enable him to barter for a wife or wives, when he will make them do the work whilst he sits down and only hunts when he feels inclined, and in this manner he further constitutes a factor of danger to the civilised races when his chief or pet god incites him to war. It therefore follows that the higher the wage a Kaffir gets, the sooner you make him independent; and indeed, should he return to the goldfields, as is frequently the case, in order again to seek work, the company who have paid for his inefficient labour during the period while he was being taught his work will not derive the advantage of such experience, since it is quite as likely that he will drift away to some other company for employment. With the introduction of a better railway system

and cheaper facilities for travelling, matters generally in this respect will not be improved, just as from this cause it is easy for a Kaffir to get to the fields, it will be equally easy for him to get away from them, and since his wages are high and he is able to save a sufficient amount in a very short time, he will be found more frequently taking these holiday jaunts; whereas before the existence of railways the Kaffir thought several times before he started on his long and weary trudge on foot to his home. The raw Kaffir, that is, one who has absolutely no experience in mining, is naturally at this rate of wage an extremely expensive article, and indeed it might with truth be said that he spoils more work than he actually performs. When one adds to this condition of affairs the frequent careless superintendence by white labour, especially in the direction and placing of the drill holes, the author has no hesitation in saying that the present high cost in mining on the Rand, especially on the "skoping" work, is due largely to extravagance in the quantity of explosives used, loss of time in getting to work, and excessive wear and tear of tools through ignorant handling.

In future, it will be found that a greater saving can be effected in the cost of working by paying more attention to this subject than to almost any other. The author strongly supports the suggestion which has been made, that the employment of Kaffir labour underground, just as female labour was in the English collieries, should be prohibited by law. Only in this manner would all contact between white and black labour underground cease to exist, and as a consequence of such a law there would immediately be an excess supply of black labour which could then be put to work on the surface at a greatly reduced rate of wage. In this manner the cost of surface erections, plant, and machinery would be reduced, and it would be further possible for the agricultural industry to thrive, since such excess labour would then drift off in this direction.

In this manner it would only be a question of time when the food supplies, as raised within the State, would become cheaper, and if, at the time, the Government could also see its way to reduce some of the taxes affecting the cost of imported food-stuffs, wages, even for white labour, might also be reduced without any unfairness, to such a point as to admit of its employment underground in place of the black.

White labour should, moreover, be put upon its merits underground, that is, as much contract work as possible should be done. Under such conditions there should be no reason why mining could not be carried out as cheaply underground in the conglomerates of the Witwatersrand as it is at the present time in English and American mines, working under more or less similar conditions.

The only satisfactory manner by which black labour could be brought into a state of efficiency would be to colonise some, say, 20,000 to 30,000 natives in such close proximity to the gold mines as would admit of them travelling to and from their work each day, for which purpose, of course, some small railway could be constructed—should the proposed site for such colony not already be in the near neighbourhood of a railway. Naturally such a colony would consist of natives and their families, which latter could easily find employment in light agricultural work, such as the planting of mealies (corn), for which most land is suitable in the neighbourhood of Johannesburg, with very little special cultivation and irrigation. Under such conditions, of course, it would then be practicable for the same set of natives to find constant employment at the same time, and, in consequence, it would not take long to train them to as high a state of proficiency in ordinary work as the average daily white labour possesses, especially when their naturally fine physique is taken into consideration. Some such suggestion has frequently been put forward, but has generally met with disapproval, partly on account of the laws of the State which, as at present framed, prohibit such a scheme, and partly by those who, like Native Commissioners and Compound managers, possess an intimate knowledge of the Kaffir, and who state that from their experience the Kaffir is not amenable to any such treatment, as, when once permanently withdrawn from his native hunting-ground and, in fact, brought into contact with so-called civilised life, he degenerates so quickly as to become shortly useless for work.

PARIS LETTER.

The State of Mining Investments.—Necessity for Reforms.—Position of Kaffirs.—The Phosphate Deposits in North Africa.

THE insufficiency of the Paris market to deal with the business that has been steadily growing since South African mining investments first began to enjoy public favour has for some time past been attracting a great deal of attention. The wonderful development of the Witwatersrand has probably created quite as much impression upon the French as upon the English investor, and at certain epochs of South African mining it is safe to say that the bulk of the shares in the leading companies have been transferred to this side of the Channel. As it is there are three or four companies on the Rand of which the shares are held almost entirely by the financiers and investing public in France. While people were content to invest their money in these undertakings, as they were accustomed to do at first, the business on the Bourse was carried on smoothly and satisfactorily, but so soon as the gambling fever took hold of all classes, and those who held shares as investments began to speculate in them for the sake of immediate gain, the organisation of the Bourse was put to a very severe strain. As a matter of fact, the limitation of the number of *agents de change* by law makes it utterly impossible for all the business to be transacted in what is popularly called the *corbeille*, or the *railed-in* part of the Bourse where they are alone privileged to enter. It is true that they have their clerks who carry on business outside the railings, but even with this assistance they are unable to accept a tithe of the commissions that would otherwise flow in on them. Consequently, the necessity for doing something to cope with the business resulted in the creation of the *coulisse*, or the free market. The members of this free corporation even offer certain advantages in the way of a speedy transaction of business that are eagerly seized upon by investors and speculators, and they would thus be serious competitors to the *agents de change* if these latter were not able to give special guarantees to their clients. It is this question of guarantee which has for more than a twelvemonth past been resulting in a steady disintegration of the market. The *agents de change* are compelled to protect their clients by depositing an enormous sum as caution money, and thus, in the improbable event of a failure taking place, the clients are always sure of coming by their own. The members of the *coulisse* have also to deposit a sum of money before their names can be inscribed on the "list," but the amount is ridiculously small in proportion to the amount of business transacted, and it affords no guarantee whatever. The *agent de change* is not allowed to speculate on his own account, but the member of the *coulisse* can do so, and the unlimited credit which he can often obtain so long as the market is going well, induces him to commit himself far beyond his means. Thus, should a slump set in, and the financial houses create difficulties in carrying over accounts, a large number of failures will be forced

* A Paper read before the Institution of Mining & Metallurgy.

† It is greatly to be regretted that, as the Annual Report of the State Mining Engineer appears in Dutch, and no translation of it is prepared by the Government, it is rendered almost useless to those for whom it presents the most interest.

LATEST FROM THE MINES.

CABLEGRAMS AND TELEGRAMS.

ACHILLES GOLD FIELDS.—The following message has been received by cable from the managing director at the mines:—"Have contracted for east drift No. 5 level, 150 feet, £280; to sink winze No. 4, £320. Winze down 40 feet, ore therefrom assays 25 dwts. per ton; lode 9 feet. Have given a bonus provided it is completed by December 25, supplying what is necessary for 30 stamps. Plenty of ore of good high grade quality. Since October 28, 187 ounces of gold; expecting similar quantity November 30 from 15 stamps."

AFRICAN AGENCY.—A dividend of 5 per cent. for the half-year ended September 30, being at the rate of 10 per cent. per annum, has been declared payable to all shareholders registered on that date.

ALASKA MEXICAN GOLD.—A cablegram from Alaska reports the clean up for the month of October as follows:—"Period since last return, 31 days, bullion shipment \$19,819, ore milled 11,347 tons, sulphurets treated 144 tons, of bullion there came from sulphurets \$5142, working expenses for period \$16,088."

BEVOIS WESTRALIAN SYNDICATE.—A cable received from the mining manager at Menzies states that there are 11,000 ounces of gold in sight.

CAYLLOMA SILVER.—A cable has been received from the manager at the mines reporting:—"October production 20,500 ounces fine silver in export ore, and 10,000 ounces fine silver in bullion."

COLOMBIAN HYDRAULIC.—The directors have received the following cablegram of the result of Run No. 210:—"We have cleaned up after a run of 49 days, during which time we have washed 900 hours. The gross returns are £2200; the net profit is £1150."

DAY DAWN BLOCK AND WYNDHAM.—Cablegram from the general manager at Charters Towers, giving the result of the crushing for the fortnight ending the 14th inst.:—"Tons crushed 1215, yield of gold 1200 ounces, approximate value £4150, fortnight's expenses £2140."

EAST MURCHISON UNITED.—Cablegram to hand states:—"Crushed 447 tons, obtained 827 ounces."

GREAT BOULDER PERSEVERANCE.—Cablegram received November 17:—"The Hannan's Public Crushing Company's 10 stamp mill has commenced to stamp on the Great Boulder Perseverance Company's ore."

MAY CONSOLIDATED.—The following cable message, dated Johannesburg 12th inst., has been received:—"The profit for the past month (October) was £4588."

MENZIES MINING AND EXPLORATION.—Cleaned up after trial run, 153 ounces. Bullion from 150 tons, 10 dwts. in tailings. Mills working first-rate."

MOUNT HEPBURN.—Cable from mine manager:—"Average assays 1 ounce 13 dwts. per ton."

MOUNT MAGNET.—The following cablegram has been received from the general manager, dated November 16:—"Commence crushing near the end of November."

MURCHISON NEW CHUM.—The following cable has been received from the mine:—"Level No. 3. Have passed through three small chutes, ore contains visible gold.—East Chum. At a depth of 50 feet have struck reef 18 feet thick, not yet through, only contains traces of gold. Expect to cut vein at the lower level (140 feet)."

ST. JOHN DEL REY.—The following telegram was received from Mr. Chalmers on Saturday:—"Produce 10 days, first division November, 9000 oits., equal to 1037 ounces troy, value £3487; yield per ton 4 1/4 oits. (50 ounces troy)."

TRANSVAAL COAL TRUST.—The following cablegram has been received from the head office at Johannesburg as bearing on the company's operations for the month of October:—"Output 29,600 tons, profit £3000."

UNITED MINES (Bultfontein).—The output from this mine for the week ending October 17 is 18,471 loads, yielding 1330 1/2 carats.

VICTORIA AND QUEEN.—Messrs. A. Durant and Co., the London agents, have received the following cablegram from the head office, dated Charters Towers, November 14:—"Have crushed and cleaned up 300 tons for 633 ounces second class ore, 115 tons for 172 ounces, total 415 tons for 805 ounces of gold, approximate value £2550."

WAIHI SILVERTON EXTENDED.—The following is a copy of cable received from Mr. A. P. Griffiths, superintendent at the mines:—"Have decided to dismiss Adams and to appoint Moore, of the Waimakauri Company, at a salary of £400 per annum. Please confirm by cable."—P.S. This has been approved.

WAITEKAURI GOLD.—The bullion returns for the 28 days ending November 7 amount to £5170 from 1674 tons of ore.

WENTWORTH GOLD FIELDS.—The following cablegram has been received from the mines:—"Six weeks' return totals 987 ounces of gold (approximate value £3620)—namely, 1150 tons of ore have been crushed, yielding 897 ounces, and 2 tons of rich crude ore have been shipped containing 90 ounces. The battery is temporarily stopped for want of water."

AUSTRALIAN MINES AGENCY.—Mr. S. C. Platts, F.C.A., secretary, has received the following cablegrams from Brisbane:—"Tamerlane and Westralian properties have discovered a good body of ore at 150 feet level."—"Freehold Goldfields of Queensland (Limited) Mines are looking well and promise better. Shall commence to crush December."

WENTWORTH GOLD FIELDS PROPRIETARY.—The following cablegram has been received from the mines:—"Mill working again; plenty of water."

DUNDERBERG.—Cable received from mine manager, dated 20th inst.:—"The mill has been started November 16; mill working splendidly. Good progress being made with the tramway from the tunnel to the mill."

SOMONDOCO.—The directors received a cablegram November 16, stating that the ditch had been finished, and that the water has reached the mine.

KABOONGA.—Cablegram received:—"Pump now working 10 strokes a minute, pressure of water much less; all machinery in good order and working well."

HERBERT GOLD.—The following cablegram has been received from the company's managing director in Coolgardie:—"North workings No. 3 shaft, 73 feet deep, struck splendid gold, a reef 3 feet thick. Am sending specimens."

VICTORIA REEF.—The following cable has been received from the company's agents in Australia:—"The latest news from mine is very good. New find; the stone shows good gold."

NORTH-WEST AUSTRALIAN GOLD FIELDS.—Cable from the manager:—"Crushed 114 tons, yielding 170 ounces gold. Clean up November 14."

LILY AUSTRALIS.—Extract from cablegram from the manager of the mine:—"Advise erection of a stamp battery, 10. We cannot get a crushing; the mills are full. The mine looks splendid. Raised 120 tons stone recently; 3 ounces per ton. Not sufficient water for battery yet; can get plenty the deeper we go."

SIDE LIGHTS ON THE LAW:

Legal Jottings on Cases in the Courts, and on Questions affecting Mining, Railway, Financial, Industrial, and allied Interests.

BY A BARRISTER.

FOR some time to come we are likely to hear less in the Courts than we have of late of the intention of an Act of Parliament. In the case of *Broderip v. Salomon* which has become to be known as the "one-man company case," it will be recollected that Mr. Justice Vaughan Williams, and subsequently the Court of Appeal, consisting of Lords Justices Lindley, Lopes, and Kay, followed the modern fashion of imputing to the Companies Act, 1862, the Statute upon which their decision was based, a certain intention. The result was that they held that the company formed by Mr. Salomon, and to which he had sold his business was practically a nullity, because it was contrary to the intention of the Act of Parliament, under and by which Limited Liability companies are created. Mr. Salomon having for 30 years prior to 1892 carried on business as a leather merchant and export boot manufacturer, and his business being at that time solvent, determined to form a private company to which to sell it. Accordingly, following the practice that has become peculiarly general of late, he entered into an agreement for the sale of his business to a trustee for the company to be formed at a price which he himself fixed, and which, it may be understood, was not under-estimated. Then he, his wife, four sons, and a daughter, signed a Memorandum of Association of the proposed company, the nominal capital of which was fixed at 40,000 shares of £1 each, by which they undertook, as original subscribers, to take one share each. Having thus secured the statutory seven members required by the Companies Act, he was in a position to, and did, register his company with the Registrar of Joint Stock Companies and received the certificate of incorporation. At the first meeting of the company, which consisted of the seven above mentioned, who then, and throughout the company's existence, remained its only members, the company appointed three directors—viz., Mr. Salomon and two of his sons, already mentioned, at salaries which it fixed, and at a meeting of the directors, held the same day, it was resolved to adopt the contract for the purchase of Mr. Salomon's business which had been entered into with the trustee for the company. The purchase price was about £38,000—no doubt a sum which may compare favourably with prices sometimes fixed when concerns are to be offered to the public. This price Mr. Salomon took as to £10,000 in debentures, which went some way towards securing to himself the assets of the company, and the balance in cash. Of course, it is apparent he might have taken the balance in what are known as vendors' shares, but this would have necessitated that the agreement under which he would take them as fully-paid up should be registered, and it might well be thought that as such would be open to public inspection, it would not be conducive to the company's interest as a trader. In the plan adopted by Mr. Salomon, the apparent difficulty of a company formed by him which had no money except the £7 to be obtained under the original subscription in the memorandum, paying several thousands of pounds for a business, seems to have been got over. At the third meeting of directors he applied for, and had allotted to him, 20,000 shares. For these he paid. How, it does not quite appear. Lord Justice Kay, in his judgment in the Court of Appeal, said:—"If any money passed, it is obvious that £1 would have been sufficient. By handing it backwards and forwards in this way, the whole of the 20,000 shares might be acquired." In some way or other he having paid for his shares, the company paid him £20,000 in cash, part of the price. For some 15 months the company continued to trade. In the meantime Mr. Salomon borrowed from Mr. Broderip some £5000 on the security of his £10,000 debentures, which were by consent cancelled, and issued direct by the company to Mr. Broderip. Upon default in payment of the interest on the debentures, Mr. Broderip commenced an action to realise the debentures, and an order was made to wind up the company, and in the action Mr. Justice Vaughan Williams made an order that Mr. Salomon should indemnify the company against the claim of its unsecured creditors, on the ground that he had employed a limited company as his agent, the learned Judge being of opinion that the company was, in fact, a sham, and was the *alias* or *alter ego* of Mr. Salomon. In the Court of Appeal, for practical purposes, the same view was held, except that instead of considering the company Mr. Salomon's agent, they drew the conclusion that the company was a trustee for Mr. Salomon, and that Mr. Salomon as the *cestui qui trust*, or the person beneficially interested was bound to indemnify his trustee against claims arising in the course of business.

It is seldom that four learned Judges of the eminence of the above have, in a case of such importance and moment, been so caught tripping, and it affords a splendid illustration of the danger that underlies the growing system of twisting an Act of Parliament to meet the needs of the times by imputing an intention which is not to be drawn from any words to be found within it. Mr. Salomon, having carried his case, on appeal, to the House of Lords, had to appear there as a pauper suppliant, but he has been successful in convincing the House of Lords, composed of no less eminent men than the Lord Chancellor, Lord Watson, Lord Herschell, Lord Macnaghten, Lord Morris, and Lord Davey, that a company such as that formed by him is a valid and legal entity, and is incorporated as required by the Companies Act, 1862. He has not only done this, but he has exposed, in a manner sufficiently remarkable, the illogical position which both Mr. Justice Vaughan Williams and the Court of Appeal had taken up. Mr. Justice Vaughan Williams has, I have mentioned, held that the business was Mr. Salomon's, because the company was a sham, and also that the company was his agent. As the Lord Chancellor pointed out, either the limited company was a legal entity or it was not. If it was, the business belonged to it and not to Mr. Salomon. If it was not, there was no person and no thing to be an agent at all, and it is impossible to say at the same time that there is a company and that there is not.

The same observation applies to the conclusion of the Court of Appeal. Moreover, the Court of Appeal held that the object of the whole arrangement was to do the very thing which the Legislature intended not to be done. "Where," the Lord Chancellor asks, "Am I to get from the Statute itself a limitation of the provision that one share is sufficient to constitute a shareholder—that that shareholder must be an independent and beneficially interested person?" Lord Justice Lopes, agreeing with his learned brothers in the Court of Appeal, had said "the act contemplated the incorporation of seven independent *bona fide* members who had a mind and a will of their own, and were not the mere puppets of an individual who, adopting the machinery of the Act, carried on his old business in the same way as before, when he was a sole trader."—For such reasons

GOLD DISCOVERY IN WALES.—A correspondent of the *Daily Mail* at Towy, Merionethshire, reports that a remarkable discovery of gold dust has been made in the estuary of the river Mawddach, at Barmouth. Samples of sand heavily charged with gold dust have been taken in various parts of the river, notably at Llanellyd, Vachynys, and Boneddu. Valuable quartz has also been discovered in the bed rock. The river flows through the gold-yielding districts of Merioneth, and is in close proximity to the Clogau Mine. Applications for permission to dredge the river have been made to the Barmouth Harbour Trust and to the Board of Trade, and the former authority has consented, provided that the navigation of the river is not interfered with. Almost simultaneously with the discovery a prospecting party came across a vein of gold quartz in the famous Panneras walk.

One hundred tons of the Isle of Man Mining Company's ore was sold on Tuesday at £8 18s. 6d. per ton.

the Court of Appeal had held that Mr. Salomon *plus* the members of his family, who held, if any, merely a nominal beneficial interest in the company could not constitute a legal company. Commenting on these words of the Lord Justice the Lord Chancellor points out that the Court of Appeal would have the words "seven independent bona fide members with a mind and will of their own, and not the puppets of an individual," read by construction into the Act. The Lords refused to insert into the Act limitations which were not to be found there. They exposed the inconsistency of, in the same breath, treating the company as having, and as not having, an existence. They pointed out that no case of fraud upon the company as to the purchase of its property, and as to its creation, had been established, for every shareholder knew exactly what was the true state of the facts. In these circumstances, while agreeing that persons who purchase property, and then create a company to purchase from them the property they possess, stand in a fiduciary position towards the company, and must faithfully state to the company the facts which apply to the property; yet if there is no fraud and no agency, there was no ground for supporting the conclusion arrived at by the Judges below. In the opinion of the Lord Chancellor, Mr. Salomon was not shown to have done, or intended to do, anything dishonest or unworthy.

COMPANY FINANCE.

Reports, Balance Sheets, Dividends, &c., of Mining and other Companies.

TRANSVAAL EXPLORING COMPANY (LIMITED).

The ordinary general meeting of the shareholders in the Transvaal Exploring Company (Limited) was held at the Cannon-street Hotel yesterday, Sir Frederick Young presiding. The Chairman explained that the company was formed to acquire concessions obtained for the prospecting and purchase of any properties of the Transvaal Lands Company. In respect of their largest estate, consisting of 450,000 acres, steps were taken to test the property, and to form a judgment from the surface indications. The geological formation gave promise of mineral wealth, and some of the quartz reefs were 60 feet wide. Some of that on the surface had been tested, but no gold had been obtained, though the circumstances were such that the directors felt justified in directing further tests. It was intended to carry out further prospecting, but it was not desirable to enter at present into any details with regard to the flotation of subsidiary companies. He had personally traversed some of the farms in the district over which the company's rights extend, and certain mineral crops had been pointed out to him. The railway from Mafeking to Bulawayo was calculated to be of great advantage to the company. In all, the properties in which they were interested covered some 900,000 acres, and in order that they might be properly developed, it was desirable that the directors should be endowed with further capital powers. He thought the result of their operations ought to be a subject of gratification to everyone connected with the company. In their first annual report the directors were able to announce that they had received in cash, in addition to what they possessed in shares, sufficient to make an appreciable profit after paying the entire expenses incurred, and this in face of the difficulties and drawbacks encountered from well-known causes in the Transvaal. The *raison d'être* of the company was to explore, and he trusted that the efforts made to make the company a success would be properly appreciated. A long discussion ensued. Eventually the report was adopted, an amendment to refer it back being negatived. On the resolution to increase the capital by £100,000 the voting was equal, and it was, therefore, declared to be lost, the Chairman declining to give his casting vote.

THE KAURI FREEHOLD GOLD ESTATES.

A circular to the shareholders states: At the request of the directors, Mr. McCombie, the mine manager of the Woodstock Gold Mining Company of New Zealand, recently inspected and reported on several mining properties on this company's estates. The properties known as Lanigan's, Hilda, Zealandia, Australia, Maiden, Owers, and Murphy's claims had been worked to some extent before this company acquired them. Since their acquisition they have been placed under the superintendence of Messrs. Quinn and Peobles, mine managers, and are now being re-opened and further developed, with a view to their being disposed of to subsidiary companies as favourable opportunities offer. In his reports Mr. McCombie makes certain suggestions for the development of these properties, and these suggestions are now being carried out. This property known as Lillia's claim is the result of a discovery made by a Mr. Lillia on the company's To Rangea block, and was pegged out by him under regulations which this company issued, and which secure to our company a substantial interest in the property. On this claim a trial crushing of 2 tons recently produced £875. It is the policy of the board to open up and develop the company's estates as rapidly as possible, and with a view to effecting this with the least possible delay, Mr. P. G. Hamilton Carvill, M.P. (the Chairman of the company), and Mr. Leonard Wolstead (one of the directors) have recently left for New Zealand to confer with the local board, and arrange for the pushing forward of the prospecting and development work.

FRONTINO AND BOLIVIA (SOUTH AMERICAN) GOLD MINING COMPANY (LIMITED).

The directors have received advices from Mr. John Penberthy, dated September 21 and October 3. Also a letter from Messrs. Restrepo, dated September 12. The statement for the month of September is as follows: 3125 tons produced (bullion) 4456 ounces; tributary gold produced (bullion) 150 ounces; total 4606 ounces; also 44,900 lbs. sulphurets, valued at £465 17s. 6d. Estimated value of the gold and sulphurets £10,558 6s.; cost at mines, Medellin, and in London £5423 11s. 10d.; estimated excess of returns £5134 14s. 2d. On November 9 the directors received a code cablegram from Mr. Penberthy to the following effect: "Value of October gold and sulphurets £10,200. Estimated cost, including London payments, £5630. Estimated profit £4570. Mines are looking well."

WORLD'S TREASURE (LIMITED).

A meeting of the World's Treasure (Limited) was held at the Institute of Chartered Accountants, Moorgate-place, E.C., yesterday. Our representative attended with the object of reporting the proceedings, but a Commissionaire stationed at the door refused him admittance.

The Electrician Printing and Publishing Company, of 1, 2, and 3, Salisbury-court, Fleet-street, London, have in preparation the 1897 edition of "The Electrician's Trades Directory and Handbook," and invite all persons engaged in the electrical and allied trades to forward names, occupations, and addresses, which are inserted free of charge. Corrections to existing entries are also requested.

BRITISH COLUMBIAN MINING.

TABLE showing the cost of 1000 shares in British Columbia mining stocks in January, 1895, and the rapid advance since:—

Stocks.	Cost of each 10.0 shares, January, 1895.	Value of each 10.0 shares, September, 1896.
Le Roi	500	8000
War Eagle	80	1700
Josie	150	550
Crown Point	200	530
Nest Egg	70	250
Evening Star	90	270
Albion	100	380
St. Elmo	100	140
Palo Alto	50	150
Silverline	60	125
Monte Christo	90	200
Ironside	100	150
Red Mountain	50	200
Great Western	80	180
Iron Mask	60	850
Virginia	180	300
Porcupine	90	120
Cariboo	200	450
Monarch	50	100

Profits for 21 months nearly 600 per cent.

TAITAPU GOLD ESTATES (LIMITED).

Johnson, Matthey, and Co., Assayers and Melters,
Hatton Garden, London, E.C., November 20.
GOLDEN RIDGE MINE.
Certificate of Assay.

Weight.	Produce of gold.	Produce of silver.
No. 1 about 1 cwt. ..	Ozs. dwts. grs. 109 11 12	Ozs. dwts. 2 1
No. 2 " " " " ..	70 19 6	1 5
No. 3 " " " " ..	23 12 3	0 12
No. 4 " " " " ..	43 16 0	1 15
No. 5 " " " " ..	39 6 16	1 12
No. 6 " " " " ..	131 9 6	2 12

Per ton of 2240 lbs. of quartz.

STRAITS DEVELOPMENT COMPANY (LIMITED).

The annual general meeting of the shareholders in the Straits Development Company (Limited) was held on Monday, at the Cannon-street Hotel, when Mr. Alfred Gausson, who presided, in moving the adoption of the report, said, as they were aware, they had taken over the liabilities of the old Pahang Corporation, which had resulted in a loss to them of over £2000. Mr. Wilkinson, the Chairman of the company, who was at present abroad, had written to the shareholders, in which he attributed the disappointing results to defective management. A very vital question in connection with the welfare of the company was the cancelling by the Colonial Government of two of the three concessions they held, and at the present time steps were being taken to recover the same. He believed, however, they had no cause to fear on the subject, for they might depend on it that they would get treated with every consideration.—Dr. Clark, M.P., seconded the resolution, and it was carried.

LATEST FROM THE MINES.

ANGLO-MEXICAN.—The total output of the mine for the month of October is as follows:—\$38,500 bullion, \$1800 concentrates, 1725 tons, 26 days run.

NEW CHUM (Bendigo).—Since last report the winze from No. 7 level, 110 feet east of main shaft, has been sunk 27 feet, total depth from level 134 feet. At No. 3 level driving north there is no material change to report.

SOUTHERN NEW CHUM (Bendigo).—Since last report the main shaft has been sunk 16 feet, total from plat 283 feet, and from surface 443 feet. At No. 1 level drive north shows Lawrence reef to be 6 inches wide. The reef continues to show fair gold.

CONSOLIDATED MURCHISON.—Crushed 587 tons, obtained 202 ounces of gold.

BENDIGO GOLD FIELDS.—"South Bendigo: Preparations made for opening out; are now engaged cutting bottom plat,—"Pick o' the Field: Expect to resume sinking next week."

WAIHI GOLD.—Bullion return for 28 days, ending November 15, £13,148, from 2950 tons.

KAPANGA.—The directors have received the following telegram from the manager, viz.:—"940 feet level. The indications are favourable in every way for getting payable ore shortly. We are getting a little gold. At 900 have intersected reef; good results are expected. Corby shaft sunk 3 feet during the week; indications of improvement. Crushed 60 tons, yield 68 ounces of gold."

BURBANK'S MAIN LOPE.—Professor Nicholas expresses his undoubted belief in the property. Work is progressing as fast as can be expected. The Government approval of the Ballara and Baby mining leases is recorded in the Gazette, therefore the title is perfect.

WESTRALIAN ELECTRIC LIGHTING AND SUPPLY COMPANY.—The Municipal Council of Coolgardie have decided that the number of arc lamps in the town be increased from eight to twenty, and a further contract with this company has been accepted.

WESTERN AUSTRALIAN DEVELOPMENT.—The following information is to hand from Mr. Frank Nicolas, the Consulting Engineer:—"Dorothy. The shaft has been sunk 8 feet from the plat, making a depth of 128 feet in all. The Armadale and McKenzie Mines were never looking better."

GOLCONDA.—Copy cablegram received mine manager, dated November 19, 1896:—"Old Well making 175 gallons per hour, fresh water well, 90 gallons per hour. We are sinking 4 more in the same locality."

WEMMER.—A cable has been received stating the profit for the month of October was £7677.

SIMMER AND JACK PROPRIETARY.—Monthly return for October: "Crushed 13,680 tons; obtained 5276 ounces of gold from mill; 607 ounces of gold by chlorination; 2237 ounces of gold from tailings by cyanide during the month (October). The profit for the month is £10,267."

MONASTERY DIAMOND MINES AND ESTATE.—Cable received states:—"82 loads yielded 33 carats."

NEW OPTIONS.—Telegram, dated November 19, from Mr. T. G. Davey:—"Have cleaned up after crushing 35 tons of quartz, gross yield 250 ounces."

LADY EMILY.—The manager cables:—"The north level from the main shaft has been driven 12 feet. The width of the lode looks exceedingly promising."

One hundred tons of the Isle of Man Mining Company's ore has been sold at £9 12s. 6d. per ton.

THE COLONY OF VICTORIA: SOME OF ITS INDUSTRIES.—At a meeting of the Royal Colonial Institute, held on Wednesday evening, in the Library, Sir W. B. Percival in the chair, Mr. E. J. Dyer read a paper on "The Colony of Victoria: Some of its Industries." Mr. Dyer briefly referred to Australia generally, and pointed out that in a country so huge, though soing out the more prominently by contrast with so much that was superior; and the insufficiency of water, especially in the northern districts, was referred to as the chief, and, indeed, the only serious defect. He held that neither Victoria, nor, in fact, any of the Australian colonies, could become manufacturing centres in the sense which, for instance, identified England and Germany with this great industry. The chief reason was the lack of cheap labour. Prohibitive protective tariffs or the introduction of cheap foreign labour might meet the case, but the objections to such measures were almost insuperable. It was not then on the spindles and steam hammers, of soft goods and hardware manufactures, that Australia was to build up a great nation, but on the rich resources of the soil. Victoria, in the affairs of its land and financial institutions, its railways (over 3000 miles now open), and public works and its Government service, had been the subject of much harsh criticism during the last three or four years, and, perhaps, deservedly, but not more so than every other country on the globe which, through the force of surpassing wealth of productiveness, must sometimes pass beyond the limit of moderation and sufficiency. But the rapid recovery of the colony from the crash of 1893 afforded a striking proof of the richness of its agricultural resources. Mr. Dyer dealt at some length with the mining industry, pointing out that up to the present about 60,000,000 ounces of gold, valued at £240,000,000 had been raised in Victoria. About three-quarters of this quantity had been from quartz uniformly averaging 1 ounce to the ton, the cost of production being two-fifths. Reference was also made to the huge area still awaiting settlement, and to the generous offer of capital and land offered by the Government to desirable settlers. The lecturer concluded: Though mining has such a brilliant outlook, for it is an essentially safe industry in this colony, it is in the absolutely certain prospects of its agricultural industries that Victoria is to secure that plenitude of prosperity and comfort which people so plainly ahead of them to-day, notwithstanding the speculative reverses which brought upon them so many evil days three years ago.

THE DIAMOND MINES OF KIMBERLEY.—At the Imperial Institute, last Monday, Lord Loch, G.C.M.G., took the chair at a lecture, entitled, "The Diamond Mines of Kimberley," which was delivered by Mr. W. Crookes, F.R.S., V.P.C.S. After a brief introduction, the lecturer gave a graphic description of the Kimberley, De Beers, Dutoitpan, Bultfontein, and Wessellon Mines. He regarded South Africa as the most important source of diamonds, and ranked it with Australia and California as one of the three great gold-yielding regions. The five famous mines are contained in a circle some 3½ miles in diameter. The "pipes" are irregularly shaped, extending vertically downwards to an unknown depth, but retaining about the same diameter throughout. They are said to be volcanic "necks" filled from below with a heterogeneous mixture of about 80 different kinds of minerals; and it is in this bluish-coloured, hard, clayey mass, or "blue clay," that the diamonds are embedded. After giving some statistical information respecting the yield of diamonds, the lecturer proceeded to describe the characteristic properties of the stones from the various mines; and the early and modern mining methods were referred to. An interesting account of several native customs brought the lecture, which was illustrated by lantern slides of photographs taken in the neighbourhood of Kimberley to a conclusion.

THE CHEMISTRY OF THE CYANIDE PROCESS.—To the many researches on the chemistry of the cyanide process for the extraction of gold, and also silver, Bodlander has made an important addition. According to MacArthur, gold, potassium cyanide, and water give Kan (CN), KOH, and hydrogen; according to McLaurin and others, the solution of gold requires the pressure of oxygen. Bodlander brought the cyanide solution in a glass bulb, bent the neck to a V, draw the end of the neck out and exhausted, the gold having been placed in the V; by shaking, the gold was then brought down into the solution with which it had not been in contact before exhaustion. Very little gold was dissolved in a fortnight, and no hydrogen was afterwards discovered. The oxygen of the air is, therefore, necessary, but Bodlander comes to the conclusion that hydrogen peroxide is an intermediate and essential product of the reaction. That is to say, H₂O₂ is first formed, which, further reacting on the cyanide and gold, yields caustic potash and the double cyanide, so that no peroxide can be found at the end. That H₂O₂ is formed during the process, he proved in several ways, taking care not to be deceived by ozone; indigo solution may be used as an indicator. He was able to determine about 70 per cent. of the peroxide, which his formulae require. Bodlander further makes an interesting suggestion. Gold is not easily dissolved in acids, because it has little affinity for positive electricity. If gold dissolves in contact with two so indifferent bodies as atmospheric oxygen and cyanide, there must be dissociation. He thus joins the modern school of chemists. The paper is printed in the "Zeitschrift für Angewandte Chemie."

Warrants in respect of dividend No. 2 (7½ per cent.) have been posted to all shareholders on the London register, as at September 30 last, of the CASSEL COAL COMPANY (LIMITED).

THE RUSSIAN IRON INDUSTRY.—The Compagnie Metallurgique de Verkhny-Dnieprowsk is the title of a company which has just been formed in Brusse's with a capital of £200,000 to establish ironworks in Russia.

COAL PRODUCTION IN GERMANY.—The output of coal in the Clausthal district of Germany during the three months ending with September last amounted to 188,436 tons, as compared with 171,521 tons in the corresponding period of 1895.

MR. FRANK ARBUCKLE, the millionaire mine-owner, of Denver, Colorado, was found lying unconscious at the corner of the Eighth-avenue and 152nd-street, New York, on Thursday. He died a few minutes after being found.

An Electrical and Engineering Exhibition is to be opened in February next, at Newcastle-on-Tyne, to commemorate the sixtieth year of the Queen's reign. It is proposed to illustrate the advances in engineering made since the year 1837.

It is announced that the certificate in the North Boulder East Block (Limited) are now ready to be exchanged for the banker's receipts and allotment letters.

BIG 3 MINE (Rossland, B.C.).—Mr. Barber communicates the following:—"Trail Creek, B.C. Mr. Lahore came down Saturday night from the mine and states that the Southern Belle has 2 feet 2 inches of high grade ore, averaging 92½, which is very good, as at that depth—40 feet—the showing has not been elsewhere so good. An assay of ore from the tunnel being driven on Snow Shoe has given 17 per cent. copper. The general indications are similar to those on Southern Belle. The Masco (formerly Eldorado) has about 5 feet of good ore, running about 24. The Columbia has a 50 feet vein of shipping ore, and has some 12 wagons hauling to the railway. I am told the ore is good, and the Columbia people are now working within 40 feet of the Masco boundary, and I believe it will make ours a very big property."

NUNDYDROOG. Thomas Richards' report for the fortnight ending October 24.—Kennedy's shaft has been sunk 5 feet 3 inches, total depth 61 feet 3 inches below the 760 feet level. The 700 winz has been sunk 5 feet, total depth 24 feet. Lode 1 foot 3 inches wide, assays 1 ounce 7 dwts. 12 grains of gold per ton. The 700 north has been driven 11 feet, total distance 23; lode 1 foot 6 inches wide, assays 10 dwts. The 630 south rise has been put up 10 feet, total height 62 feet 6 inches. Lode 1 inch wide, assays 7 dwts, 12 grains. In the stope in the 630 south the lode is 20 inches wide, assays 10 dwts, 12 grains. The lode in the stope in the back of the 520 south is 3 feet 6 inches wide, and assays 1 ounce. In the stope in the bottom of the 410 north the lode is 29 feet wide, and assays 10 dwts. The 440 south crosscut west has been extended 11 feet, total distance 315 feet. In the stope in the back of the 370 north the lode is 1 foot wide, and assays 1 ounce 5 dwts. 18 grains. The 300 north rise has been put up 11 feet 6 inches, total height 53 feet. Lode 1 foot 3 inches wide, assays 5 dwts. In the stope in the back of the 300 north the lode is 2 feet wide, and assays 15 dwts. The lode in the stope in the back of the 300 south is 3 feet wide, and assays 1 ounce 10 dwts. In the stope in the back of the 230 north the lode is 2 feet wide, and assays 6 dwts, 6 grains. The 230 north crosscut east has been extended 50 feet, total distance 150 feet wide, assays 2 ounces 15 dwts. No shaft has been sunk 2 feet 6 inches, total depth 124 feet below the 630 feet level. An influx of water in this shaft has very much interfered with the sinking. The lode, consisting of stringers of quartz, assays 5 dwts, 18 grains. The 700 feet level north has been driven 18 feet, total distance 42 feet from the shaft. At 35 feet a communication was effected with the crosscut east from the 7.0 feet level south of Kennedy's shaft. This driveage is now following the main part of the lode on the eastern side of the level south of Kennedy's, and the quartz, 2 feet wide, assays 1 ounce 12 dwts 12 grains of gold per ton. The 700 shaft has been extended 10 feet, total height 142 feet. Lode 1 foot 6 inches wide, assays 10 dwts, 12 grains. The vertical shaft has been sunk 4 feet 3 inches, total depth 216 feet 6 inches below surface.—Main shaft. The 1 B3 north has been driven 29 feet, total distance 429 feet. Lode, consisting of stringers of quartz, assays a trace of gold, 6 feet in width and 2 ounces 3 dwts, 18 grains in assay value. The lode in the stope in the back of the 520 north is 7 feet 6 inches wide and assays 10 dwts. In the stope in the bottom of the 520 south the lode is 3 feet wide and assays 1 ounce, and in the 920 north buck stoppe is 6 feet wide, assaying 1 ounce 1 dwt, 6 grains. The 660 north has been driven 8 feet, total distance 627 feet 6 inches. Lode assays 1 dwt, 6 grains. The 660 north (fr-m crosscut east) on Kennedy's side has been driven 13 feet, total distance 103 feet. Lode assays 1 ounce 10 dwts, 12 grains of gold. The 520 south (on Kennedy's lode) has been driven 10 feet 3 inches of gold. The 520 north from the crosscut east. Lode 9 inches wide, assays trace of gold. The 370 north has been driven 17 feet 6 inches, total distance 340 feet 6 inches. Lode is of no assay value.—Taylor's shaft. The 1210 north has been driven 12 feet, total distance 381 feet 6 inches. Lode consisting of stringers of quartz, assays a trace of gold. The lode in the stope in the back of the 1160 north is 1 foot 6 inches wide, and assays 10 dwts. In the stope in the back of the 1090 north the lode is 2 feet wide, and assays 1 dwt. The 1.83 south rise has been put up 18 feet, total height 14 feet. Lode 1 foot wide, assays 6 dwts, 6 grains. The lode in the stope in the back of the 1050 north is 3 feet wide, and assays 1 dwt. In the stope in the back of the 980 north assays 1 ounce 10 dwts, 12 grains of gold. The lode in two stopes in the back of the 940 north averages 3 feet 3 inches in width, and assays

[illegible]

SOUTH SHROPSHIRE MINES AND LIGHT RAILWAYS.

A LARGE and influential meeting was held at Bishop's Castle, on Friday 6th inst., under the presidency of W. E. Garnett-Botfield, Esq., J.P., and was numerously attended by the large landowners of the district (or their representatives) and other leading gentlemen, with a strong representation from the L.N.W., G.W., and Joint Railway Companies. The meeting was convened by R. Jasper-More, Esq., M.P., to consider the advisability of constructing a railway through the district, a want long felt in the neighbourhood. At this meeting Captain Aldrich, Snailbeach, Ministerley—a gentleman who has made a minute observation of the mines of the district—read the following paper, which was enthusiastically received:—

In prospect of a railway being constructed from Pontesbury or Ministerley to Lydan's Heath, directly connecting the district with the Central Dales Railways, I beg to make a few remarks in favour of this route, and draw the attention of the promoters and other speculative gentlemen to the following facts of the district which the railway would pass through, which I consider well worthy of their consideration, and give precedence to this route over any other scheme of extension from Ministerley. The first point on the route worth noting is the Callow Hill Mine, situated about 1½ miles from Pontesbury and ¼ mile from Ministerley, on Lord Bath's property. The recent trials carried on in this mine have been productive, and, no doubt, with a little more outlay, the mine could be made a paying one, having in the several mineral lodes looking favourable for lead and

Continuing along the route for nearly two miles in a south-westerly direction is the well-known Snailbeach Mines, which have been continually in operation since 1787. This mine needs no remarks—the fact that it has survived the depression in the lead market during the last fourteen years, and that it is now in operation with a computed up and down traffic of several thousand tons annually, speaks for itself.

West of the above mine and adjoining it, is the Central Snailbeach Mine, now idle, but when working afforded a traffic of 350 tons a year. Only limited operations have been carried on in this mine, beyond the sinking of a good shaft to the depth of 135 fathoms.

About a mile further on is the Mytton Beach Mine—a young mine full of promise, and well worthy of the attention of speculative gentlemen and others interested in lead and blend mining.

We now come to the Perkin's Beach Mine, out of which at different times many large deposits of lead ore have been raised at a very shallow depth, and which is now being worked near surface for sulphide of barytes. A considerable quantity of this mineral is raised monthly; the output for last September was 101 tons 7 cwt 2 qrs., and may be increased.

Following the same course is the Birdham Mine, which is but little explored, but has been very productive for lead ore, and now returns a considerable quantity of Barytes annually from surface workings.

A little north-west of the above mine is the Round Hill Mine, which when in work was a rich mine, producing lead ore of superior quality, and only needs a small amount of capital and skill management to become again a remunerative concern.

Adjoining the latter two mines is the celebrated Tankerville Mine, which for many years produced such large returns of ore and high dividends to its fortunate shareholders, and of which the late Capt. Arthur Waters, in a report written by him, said that it was a mine for the children of them not then born. The mine, in about the year 1879, was amalgamated with the noted Pennerley & Boggs Mines as one great consols; the up and down traffic for last year of working amounting to nearly 10,000 tons. A portion of these mines—namely, the Boggs, is now profitably worked at a shallow depth above the audit level for blend or zinc ore, for which metal there is an increasing demand.

Next in order comes the Rock or the South Bog Mines, out of which (though very shallow) a Leeds company raised a considerable quantity of lead ore.

On the western boundary of this mine is the Rhadley Mine (a new mine), now worked by Hulton Harrop, Esq. This mine is exceedingly rich for Syl Barytes, hundreds of tons of which mineral is now lying on surface, waiting for better means of transit. Judging from the kindly appearance and the nature of the lodes, this mine promises well to produce richer metal as depth is obtained.

Devoting for a moment from the mines on the south-east of the route to call your attention to Mr. J. Job's granite and quartzite quarries and the stiperstone rocks, extending for a distance of about 9 miles in length, containing an inexhaustible supply of road and other metals, and of which with railway transit could put in the market an unlimited amount, and being of superior quality, could at once commence a large sale.

Coming back again to the mines on the western side of the route we find Cefn-y-Gynlle Mine—a mine in consequence of its distance from railway accommodation has been but little proved. The set is abounding with mineral lodes, rich on surface for syl, barytes, and with a railway would at once attract the attention of mining speculators, and would only require a very limited capital to develop it.

In passing by, your attention is directed to the Cliffdale Mine, which for many years has been rich for barytes, and now produces about 1,000 tons annually, with every prospect of continuing. Then comes the noted White Gritt and the Old Gritt Mines, which are considered by many engineers to be very valuable property, and for years have paid very high dividend, and could again with railway convenience and modern machinery be made to rank amongst some of the first lead and blend mines in the kingdom.

A little further north is the Ladywell Mine—a little mine not much developed. Its situation, and the character of the lodes in this set, is a better recommendation than any remarks of mine.

Leaving this mine, we come to the celebrated Roman Gravels Mine, which for many years has been the attraction of the mining market, and many large fortunes made out of it, and is now worked by the Roman Gravels Syndicate, whose attention is chiefly directed to the Wood or East Roman Gravels Mine, out of which they now raise a large quantity of blende and few tons of lead ore monthly, most of which is taken out of the old workings above the Audit Level. The returns are monthly increasing, and no doubt with a little outlay in exploration would be much more increased.

In the same direction is the Hope Valley and North Tankerville Mine, now in the possession of a private gentleman, who in a few months' working has raised and sold nearly 500 tons of Barytes.

There are other valuable sets along the route, such as Dutton Castle, Shelve Pool, Shelve, and Shelve Field, and other intermediate sets, that space and time will not permit me to mention.

The work done in these mines have been carried on under the slow and costly process of horse labour, costing at least 4s. per ton down and 6s. per ton up.

The question may be asked, Why was not a railway made when all these mines were in full operation, and not now when most of them are idle? When the mines were all working, the price of ore was so high that economy was a secondary matter, but now the price is so reduced that they cannot compete with other mines that have better facilities for transit.

Most of the mines are very shallow, and in their infancy, though the lodes go very deep, and the country is so abundantly charged with them that they cannot possibly have been exhausted.

Some of the Flintshire mines that had been abandoned for years have been recently taken up, and amongst others is the Trilwgan Mine taken up by Messrs. Prunard Mont & Co., Northwich, with a view to obtain blende or zinc ore for the chemical works, and if the Flintshire Mines after years standing can be re-started, why not the South Shropshire Mines, which are noted for their minerals? If a railway was made through the district, most of them would be close to the line, and the furthest would be a very short distance.

REVIEW.

Colliery Working and Management. By H. F. Bulman and R. A. S. Redmayne. (Crosby Lockwood and Son, London, 1896.)

Although the market has been rather flooded within recent years by a large number of books on coal mining, the one now before us differs in a good many respects from its congeners, both in what it omits, and in what it includes. In the former category we may at once place the whole of the mechanical portion of colliery working; such subjects as haulage and winding, engines, engine planes, hauling engines, tubs, cages, winding engines, shaft fittings, onsetting and banking arrangements *et hoc genus omne* are either not referred to at all, or if mentioned, their construction and mode of operation are taken for granted. The only exception to this statement that we have come across, is in respect of coal cutting machinery, to which a very useful chapter is devoted. Again shaft sinking and drifting are only referred to incidentally, and then only from one point of view, nothing being said as to special methods of shaft sinking in cases of special difficulty, nor as to methods of tubbing in wet ground; indeed, in the entire subject of the supporting of excavations, the familiarity of the reader with all details is assumed. We are not in any way finding fault with this treatment of the subject, but quite the contrary; all these matters have been described several times over in the standard treatises of coal mining, and those students of the subject who think they can learn them from books will assuredly not fail in their endeavour from want of sufficient written information. We would, however, suggest to the authors of the treatise now before us, that a reader, who knows as much as they assume him to know, is likely to feel insulted rather than to be assisted by engravings of a hewer's pick and shovel; it would have suited the general plan of their book better to have omitted these illustrations, and to have supplied information respecting the cost of these tools.

It is, indeed, in its commercial and administrative details that Messrs. Bulman and Redmayne's book is particularly strong, a great deal of information being supplied that we do not recollect to have come across in any other work on coal mining, and in this respect it fills a decided gap in mining literature, and fills it very creditably. Of course, the information thus afforded has, as it necessarily must have, a strong local colour, the authors describing the practice in the coal field in which they are both actually engaged in colliery management. The great Northern coal field is, however, one of the very foremost amongst British coal fields, and has always been noted for its progressive attitude in all that pertains to the technique of coal mining. Its practice affords, therefore, a thoroughly sound example to follow, and we hope that Messrs. Bulman and Redmayne's book will induce colliery managers in other districts to go and do likewise—to produce books, that is, describing the peculiarities in the method of working their coal, managing their pits, paying and handling their men, &c., somewhat on the lines of the present work.

We hold that nothing is more likely to conduce to good feeling and thorough confidence between masters and men than the multiplication of books like this one, in which the methods of estimating rates of wages and deductions, and of calculating the payrolls are clearly described. There is, we believe, always an undercurrent of feeling among coal miners that they do not receive as fair treatment as they should do, and that their managers take advantage of their own superior mathematical acquirements to do a little juggling with figures now and then to the detriment of the miners. As the education of the latter reaches a gradually higher standard, such as is very much the tendency, fortunately, of the present day, these suspicions will gradually be removed, but it takes a long time to eradicate these ingrained prejudices, and a clear statement, such as we find here, showing how the various figures that appear in the wages bills are arrived at, cannot but be useful in this respect.

The book is well got up and well illustrated, though we cannot quite approve of the appendix, which, occupying one-fifth of the entire book, is filled up with reprints of such well-known matter as the Coal Mines' Regulation Act, copies of which are so readily accessible to those interested in it.

We have only one word more to add. This book has emphatically not been written with the object of "cramming" mining students, nor of helping them to pass their certificate examinations. Accordingly, we know of very few books, indeed, that the intending candidate for a colliery manager's certificate could more conscientiously be recommended to study in getting up his subject.

MR. F. W. STANLEY'S NEW CATALOGUE.—We are in receipt of a revised catalogue of instruments just issued by Mr. F. W. Stanley, optician, Great Tormistle, Holborn, W.C., which contains many additions, the chief of which is a telegraphic code for the principal articles. This improvement, of course, greatly enhances the value of the catalogue, and will be looked upon as a great boon by the clients of this eminent and enterprising firm.

MR. STRAUSS, M.P., ON THE TIN TRADE.—In our report of Mr. Strauss's speech at Bedruth, the figures of the export duty were by accident disfigured, much to our regret. The sentence, therefore, should have read, "the export duty now remains at \$11 per chara of 3 piculs."

"THE ARCHITECTURAL REVIEW."—We have received a copy of this new review, which is published by the proprietors of "The Builders' Journal and Architectural Record," and, judging from the first number, which is an excellent one, we think we can prophesy for its popularity and future success. Amongst the contributors to its pages are many of the names of the most eminent architects, such as Mr. Pearson, R.A., Mr. Gilbert, R.A., Mr. Colcott, Mr. Aston Webb, Mr. Walter Crane, Mr. J. McNeill Whistler, Mr. Joseph Pennell, Mrs. Meynell, and Mr. John Fulleylove.

THE RIO TINTO COMPANY notify that at the second half-yearly drawing of their 4 per Cent. Bonds, 1895, to be held on the 1st proximo, bonds amounting to £27,260 will be drawn, to be paid off at par on January 1, 1897.

MINING IN CORNWALL AND DEVON: NOTES ON MINING IN THE WEST.

(FROM OUR OWN CORRESPONDENT.)

CORNISH mining people have not been perturbed by anything unusual this week, but those who had any opportunities of gauging the situation cannot fail to have been struck by the feeling of increased confidence, which is indicated by both the conversation and actions of those who are most nearly affected by its prosperity or otherwise. Whether this confidence is justified, of course, only the future can reveal, because the whole future must depend on the fluctuations of the Metal Market. The impression is very strong that matters are gradually, but no less surely, mending, that the continued range of low prices is working out its own result, that the obvious result of continued depression is a restriction of production, and that, although this is a very slow process, the metal market must in course of time be supplied with augmented quantities in order to cope with the demand which has sprung up. In the meantime, most people have realised that they must not anticipate anything like the very high range of prices which former years have seen, and that as in copper, so in tin, the average of the next 50 years must be below—the great or small degree—the average of the past 50. It is also being seen that the mines will be in a better position even with this diminished average to make profits, because of the era of improved appliances and economical working, and it seems to be certain that the mines will make proportionately better profits than they have done. The share market, though now poorly attended, shows more signs of activity than for some time past, and a number of cheap shares has been picked up as a "look-up" by those who have spare cash. The result of the inquiry for shares has been to rather enhance values, and all the principal shares are difficult to obtain at quotations. They will be still more difficult to obtain when the outsiders begin to buy because the majority are held by those who have been waiting a very long time for the rise, and who naturally will not be disposed to part until they get a very substantial margin of profit.

We hear that very little, if anything, has been done in the completion of the amalgamation between the Basset Mines and West Frances, which is at a deadlock in consequence of the condition which the lord of the latter mine has put on his granting the sett to the Basset Company. It is only fair to Mr. Fortescue to say that he has given way on a good many points, and there is only this one point now in difference—that which he insists upon, that all the ores raised from West Frances shall be returned on the sett. This, however, is so obviously impossible that Mr. Fortescue will be well advised if he accepts some modification of it. Mining people have such confidence in Mr. Fortescue's desire to place facilities rather than obstacles in the way of the industry, that it is felt that any reasonable suggestion that is put before him by which his interests, as compared with those of other lords interested in the same neighbourhood may be safe-guarded, will be acted upon. The position is rather more serious than is generally supposed because there is in it all the elements of a disastrous blow to the industry on that side of the hill.

THE meeting of the Mining Association and Institute of Cornwall has been postponed until the first week in December, and is likely to be more interesting than some of its immediate predecessors. In addition to the paper by Mr. Nicholas Trear-trail on the Cornish engine, which will then be read and discussed, there is promised a discussion on the initiative of Mr. C. V. Thomas on the work of the association. Mr. Thomas maintains—and he is not alone in his contention—that the association has not done, and is not doing, so much as it might for the industry generally, and his remarks and the reply of those in office are being awaited with some interest.

THE County Court action brought by a tenant of the Tehidy Estate against the liquidator of South Frances for compensation has been decided in favour of the mine. The decision is, however, on a point of law, and it will not be surprising if there is an appeal. In any case, it has brought out some interesting information, and the probability is that we shall soon be hearing that the Tehidy office has brought an action for the compensation for the damaged land.

MR. T. P. PROUT, of St. Agnes, has left the country to take up an appointment as general manager of a rich silver property in Bolivia. He has had previous experience in the neighbouring Republic of Chili, and also in Wales.

SOME important work has recently been done at West Kitty. A shaft 12 feet by 7 feet has been sunk from the surface to reach to the 40 fathom level, and from thence to the 100 fathom level. This shaft has been divided and cased. A ladder way and skiproad have been put in, and also a 40 inch pumping engine and winding engine. The total cost of all this is about £3000.

COTTONWOOD RIVER (BRITISH COLUMBIA) GOLD MINING COMPANY (LIMITED).

The statutory general meeting of the shareholders was held on Tuesday, at Winchester House, Mr. W. H. Roberts presiding.—The Chairman stated that the company was incorporated on July 18 last, and that the property acquired had been duly registered in British Columbia and transferred to them. The amount payable to the vendors was £50,000 in fully-paid £1 shares, leaving for working capital £15,000, which, up to the present time, was regarded as sufficient for all necessary purposes in dealing with and working their three claims, consisting of 240 acres of alluvial ground. Their property was situated in the district of Cariboo, which was rapidly coming to the front as one of the most auriferous parts of British Columbia. Acting on the recommendation of Mr. Seymour Baker, who was specially sent out to British Columbia to report to the board on the company's claims, steps were being taken to acquire the whole point of land, about 1200 acres, between the Fraser and the Cottonwood Rivers. Their mining manager reported that he did not expect to be ready to commence work early next spring, but he thought he would be able to show good results during the summer season. Mr. Seymour Baker's original estimate was that they might obtain 25 cents, or 1s. a yard, but as the result of more recent tests he calculated that the yield per yard would range from 40 cents to \$1. In view of this, and information from other sources, they believed that the prospects of the company were satisfactory.—Replying to a question, the Chairman stated that 3 cents per yard would pay all expenses.—A vote of thanks to the Chairman terminated the proceedings.

We understand that Captain George Robson, who has for some time been manager for Mr. W. Claude Johnson at the Dolgelly Gold Mines in North Wales, has left for New Zealand, to represent a syndicate formed for acquiring gold mining properties in that country, and especially for prospecting on the estates of the Kauri Freehold Gold Company.

as compared with a plant designed for zinc precipitation, might be taken at a very low estimate as £5000, resulting in an extra charge on every ton of ore treated of 1.3d per ton, calculating on the basis of a 10 years' life for the plant. Then there are the extra costs directly connected with the precipitation itself, for, as a method of precipitation pure and simple, the Siemens-Halske process is much more costly. We have the expense of the dynamo, which, with the fractional maintenance and superintendence of generator and engine, might be taken at about 1d. per ton. The charges for lead and zinc at the Worcester were 1.1d. and 2.2d. respectively per ton of tailings. There is also the cost of this metal, which is not infrequently below 1d. per ton of tailings. From this it is obvious that to accept the saving of cyanide as so much clear gain would be very erroneous.

Compare the costs of the two methods when working under similar conditions. Assume two plants, each of 500 tons per day capacity, of good and similar general design, but one arranged for zinc precipitation with four days' treatment, and the other for electrical precipitation with six days' treatment.

MacArthur-Forrest Process, with Zinc Precipitation.
500 Tons per day Plant.

COSTS PER TON.	
Filling and discharging	0 10 00
Cyanide, 7 lbs. at 1s. 1 1/2d. per lb. ..	0 9 40
Lime and caustic soda	0 1 80
White labour	6 5 00
Native wages and food	0 1 90
Fuel and power (including haulage) ..	0 3 00
Zinc	0 0 75
Stores and general charges	0 2 75

Cost per ton 2 10 6

MacArthur-Forrest Process, with Electrical Precipitation.
500 Tons per Day Plant.

COSTS PER TON.	
Filling and discharging	0 10 00
Cyanide, 1 lb. at 1s. 1 1/2d. per lb. ..	0 3 40
Lime and caustic soda	0 1 70
White labour	0 5 00
Native wages and food	0 1 90
Fuel and power (including haulage and dynamo, and fractional maintenance and superintendence of generator and engine)	0 4 00
Lead	0 1 10
Iron	0 2 20
Stores and general charges (including expellation)	0 3 20
Charge due to extra cost of plant (£5000)	0 1 30
Loss of interest due to long retention of gold in extractor boxes	0 0 38

Cost per ton 2 10 18

These two plants being of similar general design and treating equal quantities of the same tailings, the items of filling and discharging, white labour, and Kaffir wages, with food, must be identical, the method of precipitation not affecting these, except, as some think, the superintendence charges connected with electrical precipitation are slightly higher than with zinc. For the 7 lbs. and 25 lbs. of cyanide in these statements I substitute 6 lbs. and 1 lb., which more nearly represents the consumptions obtaining in practice, the total costs become £4.14d. for zinc and 2s. 11.28d. with electricity. In the year 1895 the zinc charge at the Robinson was .06d., and the cyanide consumption was .46 lbs. per ton of tailings treated. You will note that I have taken the lead and iron charges of the Worcester plant as given by Mr. Von Gernet. In the case of the plant with lead strips which has been introduced at the Crown Reef mines works, the quantity of lead per 1000 tons of plant capacity is twice as much, and the charges will be in accordance, and less favourable to electricity than I have indicated. I have already mentioned that with zinc it is necessary to clean up fortnightly, and with electricity every day or night weeks. The loss of interest involved in a Siemens-Halske plant consequent on the gold lying so long idle in the case is quite appreciable; for instance, had this method of precipitation, with clean-ups every eight weeks, been employed at the New Primrose Mine during the six months ending June, 1896, when 90,648 tons of tailings were treated, yielding 15,544 ounces of bullion, the loss in interest alone would have amounted to a charge of .381. per ton of tailings. This item appears in the above tabulated costs. The charge for the cupellation of this bullion at the rate of 91. per ounce of gold would amount to about 1.41. per ton of tailings.

This comparison shows how little there is to choose between the two methods of precipitation on their financial aspect, and, when in conjunction with the examples of working costs previously given, dispels the idea of superiority of electricity in this respect which has obtained acceptance with some of our general managers.

V.V. (GWANDA) SYNDICATE (LIMITED).

The annual general meeting of the members of the V.V. (Gwanda) Syndicate (Limited) was held on Tuesday, at the offices, 10, St. Martin's-place, E.C., Mr. E. Leigh Pemberton presiding.—The Chairman, in moving the adoption of the report, thought that considering the amount of disorder and loss of life occasioned by the native tribes in Rhodesia, and also the loss from rinderpest and other plagues, the shareholders would be of opinion that they were in as good a position as could be expected. The outbreak was extremely unfortunate for them, because within a month of that time they would have been in a position to have placed on the market the Imani property. He thought, however, that the rebellion might now be considered to be at an end. Assets taken from the Imani property averaged £1000 per ton. With respect to the assets of the company, although they had been at work a considerable time, and had done a good deal of driving and sinking, the whole of the expenses were covered by a sum of £4649—in point of fact they had left out of their working capital of £30,000 over £25,000, which they could not help but consider was satisfactory.—Mr. Andrew A. Brand seconded the motion, which was carried.

DUNALLAN GOLD MINES (LIMITED).

The first ordinary general meeting of the shareholders in the Dunallan Gold Mines (Limited) was held on Friday, at the offices, 10, St. Martin's-place, Westminster, under the presidency of Mr. J. J. Macdonald.—The Chairman stated that Colonel Burton Brown, who was a very valuable one. The development of the property was being rapidly pushed ahead, with the result that the anticipations of the ground proving highly auriferous were being quite fulfilled. In regard to the value of the reefs found their value had been estimated at 3 ounces per ton. Personally he had no doubt that the mine would be one of the greatest successes of the West Australian gold fields.—A vote of thanks to the Chairman was passed.

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

Mr. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Offices, Liskeard, Cornwall, writes November 19:—Market steady, and prices have improved, with more enquiry for shares. Holders firm, and not disposed to sell. Basset United, West Kitty, and Wheal Grenville enquired for. Quotations:—Basset United (Limited), 18s. 6d. to 20s.; ditto (5s. paid), 4s. 6d. to 5s.; Blue Hills, 4s. to 5s.; Carn Brea (Limited), 2s. to 2s. 6d.; Davon Consols, 17s. 6d. to 18s. 6d.; Dolcoath 17s. to 18s.; East Pool, 18s. 6d. to 20s.; Killifreth, 2s. to 2s. 6d.; Levant, 3s. to 3s. 6d.; Polberro, 5s. to 6s.; South Crofty, 2s. to 2s. 6d.; Teign Valley, 4s. 6d. to 5s.; West Kitty, 2s. to 3s.; Wheal Grenville, 5s. to 5s. 6d.; Wheal Kitty, 4s. to 5s.; Wheal Metal, 3s. 6d. to 4s.

Messrs. ABBOTT and WICKETT, Stock and Share Brokers and Mining Share Dealers, Redruth, write under date of November 19:—There has been a fairly firmer tone manifest in the Cornish share market during the past week, though prices do not show much advance. The amount of business doing still continues limited. Quotations herewith:—Blue Hills, 1s. to 2s.; Basset Mines (fully paid), 17s. to 18s.; ditto (5s. paid), 4s. to 5s.; Dolcoath (fully paid), 17s. to 18s.; ditto (7s. 6d. paid), 4s. to 5s.; East Pool, 1s. to 1s. 6d.; Killifreth, 1s. to 1s. 6d.; Polberro, 1s. to 1s. 6d.; West Kitty, 2s. to 3s.; Wheal Grenville, 5s. to 5s. 6d.; Wheal Kitty, 1s. to 1s. 6d.

MANCHESTER.

Messrs. JOSEPH R. and W. P. BAINES, Stock and Share Brokers, Queen's Chambers, 7, Market-street, write November 19 (noon):—The past week has furnished a very different record in prices of all classes of railway stocks and shares, to which we have had to report during some recent past weeks, inasmuch as we have now to chronicle an all-round decline without anything of a favourable nature worth mentioning set against it. In home rails there are a few exceptions, as will be seen below, but they are very small in amount as well as numerically. Beyond these a little advance in Atchisons is the only contradiction of the long list of declines in Canadian, American, and Mexican rails. Whilst the declines are so general, it is in very few instances where they reach a pound or a dollar as the case may be with the simple exception of Metropolitan Districts, these quoting 3 down. After some fluctuations Consols finish unchanged for the week, whilst rise of 1 in Victoria Inscribed, and a fall of a like amount in Canada Registered are the only changes marked in Colonial stocks, &c. In Corporation stocks and debentures, Birmingham Three per Cent. and Liverpool Three and a Half per Cent. are each 1 higher, whilst Blackburn Three and a Half per Cent. is 2 down. Foreigners are again irregular, Brazilian issues better, and Argentine Six per Cent. easier. In Europeans the only variation worthy of note is a further rise of 1 to 1 1/2 in Italian Rentes. Amongst the further classes of shares, Banks (except for Imperial Ottomans, which are 1/2 down) all show improved figures were altered at all. Insurance but slightly altered, as, indeed, most of the rest are. In purely miscellaneous, Imperial Continental Gas are again better, and Bradbours mark a fall of 1/2. Details below:—

ENGLISH RAILS.—Higher: Great Eastern, 1/2; Lancashire and Yorkshire, 1/2; Brighton A, 1/2 to 1/2; North British, 1/2.—Lower: Caledonian, 1; ditto Deferred, 1/2 to 1/2; York Deferred, 1/2; Great Western, 1; Districts, 3; Midland, 1/2; Berwick, 1/2 to 1/2; Dover A, 1/2 to 1/2.

CANADIANS AND AMERICANS.—Higher: Atchisons, 1/2.—Lower: Canadian Pacific, 1/2 to 1/2; Grand Trunk, 1/2; ditto Guaranteed, 1/2; ditto First Preference, 1/2 to 1/2; ditto Second Preference, 1/2; ditto Third Preference, 1/2; Mexican Rails, 1/2 to 1/2; ditto First Preference, 1/2; ditto Second Preference, 1/2; Central Pacific, 1/2; Milwaukee, 1/2; Denver, 1/2; ditto Preference, 1 to 1 1/2; Louisville, 1/2 to 1/2; Missouri, 1/2; New York Central, 1; Erie, 1/2 to 1/2; Ontario, 1/2; Reading, 1/2; Union Pacific, 1/2.

CONSOLS.—Unchanged.

COLONIAL STOCKS, &c.—Higher: Victoria Inscribed, 1.—Lower: Canada Registered, 1.

CORPORATION STOCKS AND DEBENTURES.—Higher: Birmingham, Three per Cent., 1; Liverpool, Three and a Half per Cent., 1.—Lower: Blackburn Three and a Half per Cent., 2.

FOREIGNERS.—Higher: Brazilian Four and a Half per Cent., 1 to 2; ditto Four per Cent., 1 to 1 1/2; Italian Rentes, 1 to 1 1/2; Russian Four per Cent., 1/2; Tarko, D, 1/2.—Lower: Argentine Six per Cent., 1/2; Portuguese Three per Cent., 1/2; Spanish Four per Cent., 1/2 to 1/2; Turks, 1/2.

BANKS.—Higher: Adelphi, 1/2; Bank of Bolton, 2; Bank of Liverpool, 1/2; Manchester and County, 1/2; District, 1/2 to 1/2; Mercantile of Lancashire 3-16 to 1/2.—Lower: Imperial Ottoman, 1/2.

INSURANCE.—Higher: British and Foreign Marine, 1/2; Maritime, 1-16; Royal, 1/2; Thames and Mersey Marine, 3-16 to 1/2.—Lower: Boiler Insurance and Steam Power, 1/2; Palatine, 1/2.

COAL, IRON, &c.—Higher: Ashbury New, 1/2 to 1/2; Staveley A, 1/2; ditto B, 1/2.—Lower: Andrew Knowles, 1/2; Rhymney, 6d.

TELEGRAPHS AND TELEPHONES.—Higher: West India and Panama, 1/2.—Lower: Anglo-American Deferred, 1/2; ditto Preferred, 1/2; Eastern Preference, 1/2.

BREWERS.—Higher: Allsopp Preference, 3; Showell, 1/2 to 1/2.—Lower: Boddington's, 1/2; Clarkson Preference, 1/2; Threlfall, 1/2 to 1/2.

MISCELLANEOUS.—Higher: Blackpool Winter, 1-16; Bovril, 1/2. Cawthra, 1/2 to 1; Fowler, 1/2; Henry, 1/2; Hetherington's, 1/2; Manchester Palace, 1s.; Saff Union, 5-16; Spiers and Pond, 1; United Alkali, 1-16; Imperial Continental Gas, 3.—Lower: Bodega, 1/2; Bradbury, 1/2; Pacific Steam, 1/2.

LATER (4 P.M.)—Home rails are very little altered as a rule, but Districts have again shed 1/2, and Great Northern and South-Eastern Deferred 1/2 each. Americans show a trifling improvement, whilst Canadians are a like amount the other way. In mines, Kaffirs have been flat again most of the day, but just about the finish here the tone here is decidedly improved.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, Stockbroker and Ironbroker (November 19), writes:—During the past week the market has been depressed at rates to close accounts. Buyers are also deterred by the uncertain state of foreign politics. Trade reports, however, are satisfactory.

In shares of coal, iron, and steel companies prices are steady. African coal are at 2s. 3d., Marbella 27s., Niddrie 40s., and Steel Company of Scotland 6s.

In shares of copper concerns there has not been much business doing, and prices show little alteration. Arizona are at 55s., Tinto and Tharris steady.

In shares of gold and silver mines a considerable amount of business has been done, and, owing to the pressure of realisations, prices in Kaffirs and West Australians have literally crumbled away. Chartered declined to 41s. 3d. There is scarcely any premium on the new issue over the original price of £2. Consolidated have touched 7s.; East Rand, 70s.; and Randfontein, 35s. 9d.; but are now all better. Broken Hill are exceptionally firmer, and a dividend of 1s. is announced to be paid on December 16. Hainault touched 11s. 9d., and it is said an engineer of standing in the colony has been appointed to proceed to the property and report on the work done. Indian mines were flat, on expected scarcity of water, but the mine reports are very satisfactory. Christmas Reefs, Diamondfontein Estates, Black Swan, and North Wealth of Nations all offered. African Recovery are at 14s. 6d.; Anglo-African Gold Properties, 12s. 6d.; Almada, 1s.; Afrikander, 19s. 6d.; African Estates, 20s.; Bantjes, 40s.; Balkis, 3s. 9d.; Bayley's No. 2 South, 8s. 6d.; Cripple Creek Exploitation, 19s.; Carlyle, 5s. 6d.; Crown Point, 17s. 6d.; Doornkop,

8s. 3d.; Dixie, 8s. 6d.; Emma, 1s.; Florence, 16s. 3d.; Golden Crown, 25s.; Ginsberg, 30s.; Glenrock, 1s. 3d.; Great Boulder Main Reefs, 26s. 3d.; Gold Fields of Mozambique, 22s. 6d.; Gem of Oue, 2s. 6d.; Heidelberg Estate, 5s. to 6s. 3d.; Hannon's Star, 18s. 9d.; Harmony Proprietary, 4s. 6d.; Haraki Associated, 3s. 6d.; Kempinkote, 1s. 9d.; Kaffir, 2s. 3d.; Labon Berlyn, 5s.; Lady Shenton, 40s.; Murchison Gold Fields, 4s.; Mount Margaret, 25s.; Newfoundland Colonisation, 2s.; North Crofton, 3s. 6d.; Otto's Kopje, 1s. 3d.; Porger, 18s. 6d.; Paddington, 18s. 9d.; Pearl Central, 21s. 3d.; Princess Royal, 5s. 3d.; Rhodania, 19s.; St. John del Rey, 16s. 3d.; Triumph Haraki, 2s. 3d.; Untoll, 4 1/2d.; Universal Corporation, par; Wentworth, 10s. 6d.; White Feather Main Reefs, 6s. 3d.; and West Australian Land and General Finance, 41s.

In shares of miscellaneous companies there is not much alteration to notice. Oil companies' shares are easier in sympathy with the price of sulphate of ammonia. Broxburn are lower at 9 1/2, and Young's Oil 29s. Nobel Dynamite are at 18, Puopho Guano, 50s., and Robarite Explosives 70s.

EDINBURGH.

Messrs. THOMAS MILLER and SONS, Stock and Share Brokers, 69, Hanover-street, Edinburgh, report as follows under date of November 19:—In home railways the most important movement since last week's report has been an advance in Glasgow and South-Western from 137 to 140 on the announcement that application will be made for power to convert the stock into preferred and deferred. Highland has further declined from 99 to 96. There has been some demand for high-class securities, along with some recovery in their quotations. In insurance shares, Caledonian have declined from 29 1/2 to 28 1/2, Northern from 78 1/2 to 78 1/2, Lancashire, North British and Mercantile, and Scottish Accident all show an improvement. Bank shares have been enquired for. British Linen has advanced from 429 to 432, Commercial from 76 to 80, National from 362 to 363, Royal from 224 to 225, Union from 21 1/2 to 22. Steel Company of Scotland shares have changed from £6 to £6 3s. Stewart and Clydesdale from 13 1/2 to 13 1/2. Broxburn Oil shares have fallen from 10 1/2 to 9 1/2, Holme's from 27s. 6d. to 17s. 6d., Young's from 33s. to 29s.

THE IRON AND STEEL MARKETS.

Messrs. JOHN STEVENSON and COWPER'S weekly report, dated Middlesbrough, and 5, Quay-side, Newcastle-on-Tyne, November 19, state:—The warrant market is not so strong, and there is less animation in pig iron generally than there was a week ago. Trade keeps sound and good, but there is not that "go" about it at the moment that would be imparted by more speculative operations. "Outsiders" have not come in as might have been expected, probably because of results of previous meddling with this treacherous article. Home consumption keeps at best, and shipments are uncommonly high for this time of the year. Up to last night 75,000 tons was exported from Cleveland, which exceeds last month by 10,000 tons. The current price of No. 3 is 40s. 6d. to 41s., and hematite is 49s. 6d. for early delivery. Freight from Bilbao are firm, and there is a wide difference between sellers and buyers view of the value of ore which is restricting dealings in this kind. Rolling mills are very full and some manufacturers refuse to quote. Iron plates and bars are £5 5s., angles 2s. 6d. less, subject to 2 1/2 per cent., steel 5s. per ton more. Coke unchanged, and coal, excepting Northumberland steam which is very weak is a little better. The Richmond rolling mills at Stockton are about to be started to roll iron and steel of all sorts, and we understand Mr. Rodd, the Mayor of Stockton, is to be the Chairman of the company. The Glasgow market closed this afternoon—"easier, good business"—Scotch 48s. 10 1/2d., Cleveland 40s. 10 1/2d., Cumberland hematite 50s. 10 1/2d., and Middlesbrough hematite 48s. 11d. cash buyers.

Messrs. BARRY, HEAD and Co's. weekly report, dated 26, Lombard-street, E.C., November 19, states:—The prices of finished goods remain about as last reported, though pig iron is nearly 1s. per ton up on the week. Works continue full of work, and maintain top prices, though demand has rather slackened off. It is, therefore, clear that any renewal of recent heavy demand would again send prices up, and such an event would in no way surprise us.

CASSIDY HILL (COOLGARDIE) GOLD MINES (LIMITED).

The adjourned general meeting of the shareholders in the Cassidy Hill (Coolgardie) Gold Mines (Limited) took place on Monday, at the Cannon-street Hotel, when Mr. D. Oaslow, who presided, said on the last occasion objection was taken to the passing of the accounts. Some of the shareholders said they required fuller information, and no opposition was raised to the adjournment of the meeting. In the interval a circular had been issued concerning the promotion of the company and other matters, and the questions so raised he would answer categorically. Having done so, the Chairman proposed that the statement of income and expenditure, and the balance-sheet for the period ended May 30, 1896, be adopted.—Mr. D. W. Wales seconded the motion.—To this an amendment was moved, adjourning the meeting to January 12, 1897, refusing to adopt the report, and appointing as a committee Messrs. W. Hardman, H. W. Gordon-Cumming, G. J. Toy, and T. H. Vernon, for the purpose of investigating matters arising out of the directors' report—viz., the circumstances attending the sale by the directors of the Paranga property, the working of the mine, and the position of the company. The amendment further called upon the board to give every assistance to the committee, which was authorised, if it thought fit, to submit two names as directors in the place of those retiring.—After a long discussion the amendment was unanimously carried, and the proceedings terminated with a vote of thanks to the Chairman.

ECLIPSE GOLD MINING COMPANY (LIMITED).

An extraordinary general meeting of the Eclipse Gold Mining Company (Limited) was held on Wednesday, at the offices, No. 300, Winchester House, Major-General Tweedie presiding.—The Secretary (Mr. Robert Warner) read the notice convening the meeting, and the resolutions having for their object the winding up of the company.—The Chairman said that the sale of the assets and undertakings of the Eclipse Company had now been carried out, so that the only assets they had now got consisted of 76,000 shares in the new company. The object of the resolutions, therefore, was that these shares, which were now the property of the company, might be distributed among and become the property of the individual shareholders. He moved:—"That the company be wound up voluntarily under the provisions of the Companies Acts, 1862 to 1890."—Mr. Shepherd seconded the motion, which was unanimously carried.—A further resolution having been carried, appointing Mr. Robert Warner as liquidator, the proceedings terminated.

HESPERUS GOLD MINING COMPANY (LIMITED).

An extraordinary general meeting of the shareholders of the Hesperus Gold Mining Company (Limited) was held on Wednesday, at the offices, No. 300, Winchester House, under the presidency of Major-General Tweedie.—The Chairman said the object of the meeting was to carry out the instructions of the last meeting of the company. The property had now been transferred to the new company, together with the assets. The only assets remaining to this company now would be the shares which had been handed back to this company, and as soon as the resolutions which they were called together to consider were passed, and the liquidation had taken place, these shares could then be distributed to the shareholders. He moved the first resolution:—"That the company be wound up voluntarily under the provisions of the Companies Acts, 1862 to 1890."—Mr. Shepherd seconded the motion, which was unanimously adopted.—A further resolution appointing Mr. Robert Warner as liquidator having been carried, the proceedings terminated.

NOTES FROM BRITISH COLUMBIA.

(FROM OUR OWN CORRESPONDENT.)

JUDGING from certain articles which have appeared in some London papers, there seems to be an impression there that the present mining activity in British Columbia is merely a revival of an old excitement, that ancient mines have been galvanised into a kind of second existence, and dressed up, as it were, to be placed among the wares now offered to the public in the mining market of London. Though it is possible that a person ignorant of the real state of affairs might be led into this idea, it is completely and entirely erroneous. The competition among rival promoters is, no doubt, extremely keen, and each is anxious to give his mine, his district, or even the country in which it exists the greatest prominence he can to his customers, and in doing so it would not be wonderful if he seized on any pretext to belittle other properties and the localities in which they are found.

The truth of the matter is simply this. The present mining excitement in this province is founded on the discovery of galena on the shores of Kootenay Lake, the great Silver King Mine at Nelson, and the gold deposits at Trail Creek. There is no doubt at all about this, and as to these being old mines reworked, not one was known to exist 10 years ago. Then the Slocan was absolutely unknown, Nelson did not exist, and the trader and trapper squinted his tobacco juice over the site of Rossland, and sat wearily with his climb on the rich outcrop of the Le Roi or War Eagle, ignorant of the wealth beneath him.

Previous to this discovery of mineral in West Kootenay, mining had certainly been carried on in a desultory fashion for many years, and it is known that the province contributed some £10,000,000 worth of gold to the world's treasury between 1852 and 1890. In the former of these years occurred the great rush to the placer diggings of Cariboo and the Fraser. This excitement, curiously enough, is well remembered all over Western America, but is hardly known of elsewhere, although it formed the subject of much lengthy correspondence in the *Times* of that date. As the excitement gradually died out, the diggings fell into the hands of the Chinese, whose industry repaid them well where a white man disdained to work. Much of this old placer ground is now taken up, and is being worked by modern hydraulic companies, some of them being floated in London, but it is not to them that British Columbia owes the present attention of capitalists. In Kootenay itself the bars on the Columbia River, and some few creeks, have for many years been scratched by the placer miner, and it was during a search for lost pack horses, which Bill Hall and his brothers had brought with them on a prospecting trip along the sands of the Salmon River, that the Silver King and Kootenay Bonanza, the present "Hall" Mines were discovered.

Mr. R. G. McConnell, of the Dominion Geological Survey Department, has finished his season's work, which consisted of an examination of the country lying to the south of Nelson, and including Trail Creek. His full report will not be published until after his return to Ottawa; but, shortly, in a conversation, he informed the writer that the main character of the country was volcanic with diabase, diabase porphyrites, and porphyrites. Small areas of slates are found, some being contemporaneous with the volcanic rocks, and some probably of an older formation. Granite bosses occur occasionally, and one large mass of granite cuts obliquely through the country forming the Beaver Range, which rises to a height of 8000 feet.

Mineral exports of West Kootenay, from the Customs' returns of the Port of Nelson, for the first three-quarters of 1896 are as follows:—

	Gold.	Silver.	Copper.	Lead.
Quarter ending:—	Oz.	Oz.	Tons.	Tons.
March 31	5,702 102,544	708,605 469,815	282'2 35,474	2318 9 70,887
June 30	5,749 101,481	407,681 270,535	542'4 59,814	1155'1 33,781
September 30	14,501 268,213	529,422 1355,814	559'0 67,773	1525'3 38,723
	26,352 475,343	1,643,108 1,096,224	1383'6 103,061	5062'3 113,394
	SUMMARY.			
Gold .....	...	...	...	...
Silver .....	...	...	...	...
Copper .....	...	...	...	...
Lead .....	...	...	...	...
Total .....	...	...	...	...

The exports from the Slocan, which are shipped by the C.P.R., are not entered at the Port of Nelson. About \$500,000 must be added for these, bringing the total to \$2,378,022.

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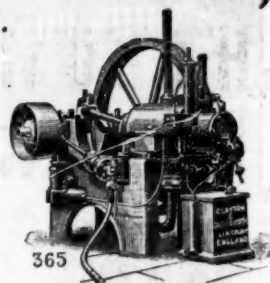
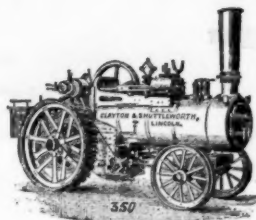
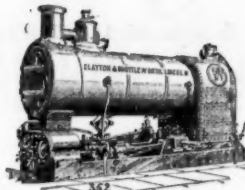
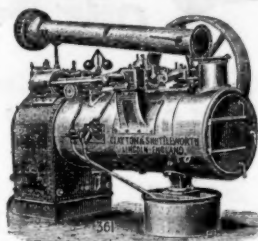
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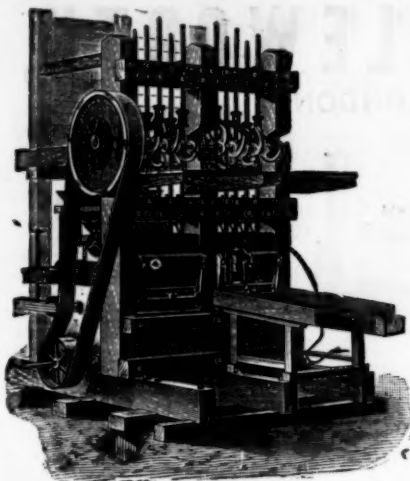
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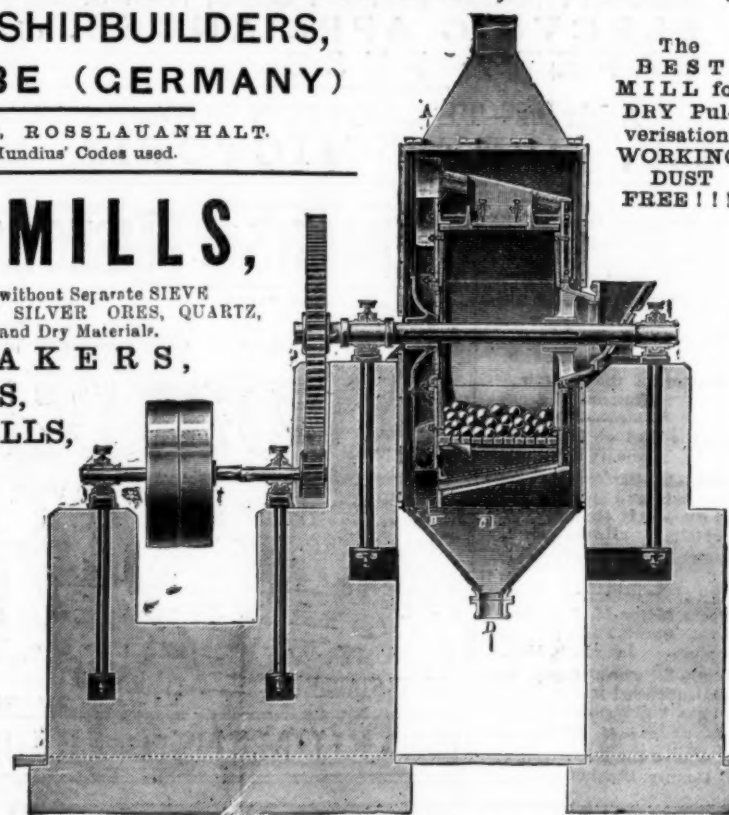
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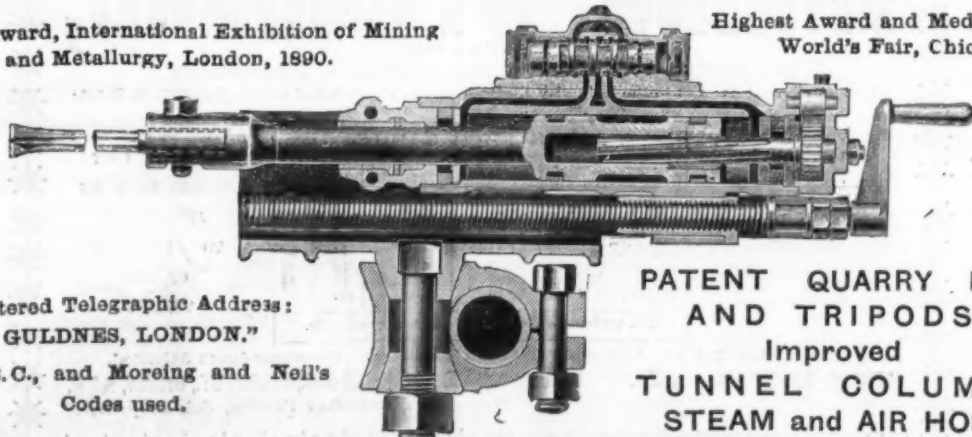
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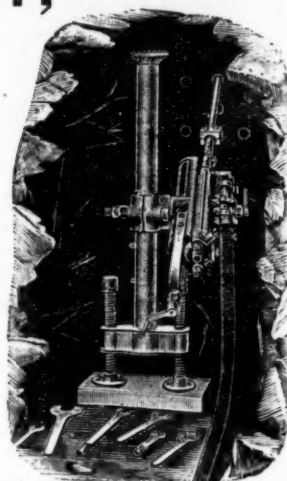
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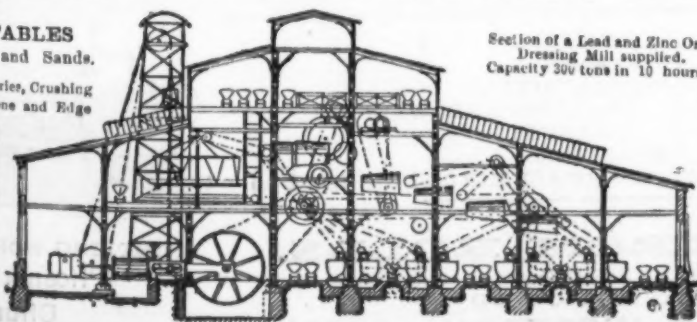
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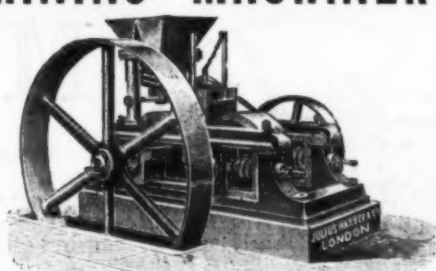
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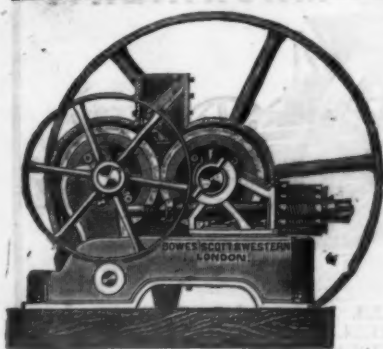
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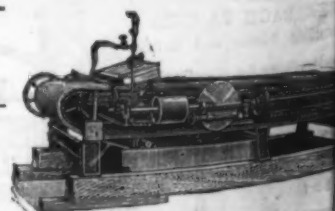
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